

Design Review
VISITOR GUARD HOUSE – BUILDING 8
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

<u>Excel Worksheet</u>		
<u>Name</u>	<u>Description</u>	<u>Printed Page Number</u>
Index Sheet	Excel Workbook Index	1
Architectural	Architectural Drawing Comments	2-4
Mechanical	Mechanical Drawing Comments	5-7
Plumbing	Plumbing Comments	8
Electrical	Electrical Drawing Comments	9-10
Communications	Communications Comments	11-13
Fire Alarm	Fire Alarm Comments	14
Structural	Structural Drawing Comments	15

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ARCHITECTURAL DRAWINGS						
A-1	KCB	Spec 07 21 00	Is there any foam plastic insulation that is not part of the EIFS system? If not remove from this spec section as the EIFS insulation is in the EIFS spec.			
A-2	KCB	Spec 07 41 13	Under performance requirements the metal soffit panels are not listed. Coordinate with the structural engineer to see what loads the soffits will need to resist and make sure they are listed in this specification.			
A-3	KCB	Spec 07 41 13	Make sure roof load requirements match the structural notes, it appears you are calling for different snow load requirements (check others too).			
A-4	KCB	Spec 07 41 13 and 07 42 13	There are 2 different levels of galvanization required under miscellaneous metal framing for these 2 spec sections. Shouldn't they be the same? Which one is more readily available in-country?			
A-5	KCB	Specs 07 42 13 and 08 90 00	Which of these is used where? - it is not clear.			
A-6	KCB	Spec 08 41 13	Paragraph 2.6, L. The maximum height listed 13mm is technically higher than 1/2" (ADA) and it differs from what is listed in 08 71 11 (12.7mm).			
A-7	KCB	Spec 08 80 00	Fire rated glazing is included in this specification however based on the drawings it does not appear there is a need for any in Phase 1. Is it needed for Phase 2?			
A-8	KCB	Spec 08 80 00	Where are glass types called out on the drawings? What is the intent of including delegated design since specific design criteria has not been provided?			
A-9	KCB	Spec 09 93 00	Where is this used? I do not see it called out on the drawings as either a wall finish, floor finish or exterior finish. If it is SC on the Finish Schedule make that clear.			
A-10	KCB	Spec 10 21 13	You have 2 specs with 2 different materials but neither one is called out on the drawings.			
A-11	KCB	Spec 10 44 13 and 10 44 16	Are all fire extinguishers in cabinets or are some bracket mounted? If they are in cabinets add detail to the drawing set showing how that works in the typical wall.			
A-12	KCB	Spec 10 44 13	Is there any need for 2 hour cabinets?			
A-13	KCB	Spec 10 51 20	This appears to be the only building in Phase 1 that has lockers. The spec says color and pattern as indicated on drawings. I do not see it called out any where.			
A-14	KCB	Spec 10 82 13	Is this specification for building mounted sunshades? I do not see any sunshades on the architectural drawings.			
A-15	KCB	Spec 12 36 61	Paragraph 2.2, A, 4. - Color is indicated on Materials Index on the drawings.			
A-16	KCB	Drawings	Throughout the set there is inconsistent text size, sheet to sheet and detail to detail.			

Design Review
VISITOR GUARD HOUSE – BUILDING 8
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

A-17	KCB	LS-001	Add paragraph "OTHER FIRE RESISTANCE RATED SEPARATION" storage rooms over 100 SF (9.29 SM) should be listed as 1 hour per table 508.2 INCIDENTAL USE AREAS. Storage/Lockers 012 is over 9.29 SM and needs to be separated with a 1 hour fire barrier.			
A-18	KCB	LS-001	Add a paragraph about accessibility.			
A-19	KCB	A-001	There are abbreviations used on the drawings that are not coordinated with the architectural abbreviations list including but not limited to the following: OH (used as opposite hand), EL, TLTS, M, MM, NO, EXPAN, PARTN			
A-20	KCB	A-101	The Plumbing drawings are using different room numbers that shown on these Architectural floor plans.			
A-21	KCB	A-101	Dimension the location of the water closets and sinks, plumbing does not.			
A-22	KCB	A-101	Show floor drains and toilet partitions.			
A-23	KCB	A-101	Who is showing how the floor slab slopes to the floor drains? Plumbing detail 3/P-501 refers back to arch drawings for "exact requirements".			
A-24	KCB	A-101	Fix overlapping tags for clarity.			
A-25	KCB	A-101	Make sure dimensions are coordinated with structural. There seem to be some discrepancies (bottom right 2100MM dimensions, structural has this wall at 2090). Are your walls drawn at 205 (actual size of 8" cmu in MM)? Structural has the walls dimensioned as 205. See S-101.			
A-26	KCB	A-103	Consider showing air terminals on this roof plan for coordination purposes.			
A-27	KCB	A-111	Consider showing all items that will be mounted on or hung from the ceiling on your reflected ceiling plan. These can be excellent coordination drawings to find conflicts between all trades.			
A-28	KCB	A-202	Elevation 1 - Have the connections between the galvanized channels around the corrugated metal panels been designed? They are not drawn on the structural drawings.			
A-29	KCB	A-202	Elevation 2 - Fix the window tags that are at the wrong scale.			
A-30	KCB	A-301	Refer to drawings E-103 - There is a note that says ceiling fans are mounted at 900MM below the ceiling slab, based on the TOS and slab thickness this put the fans at 2050MM AFF, this seems low. Consider having electrical raise them up.			
A-31	KCB	A-401	Interior Elevation 1 - Elevation B: The locker spec talks about stainless steel legs but these appear to sit on the concrete floor without any bases. Coordinate.			
A-32	KCB	A-401	It appears that toilet accessory T-3B conflicts with the grab bars.			
A-33	KCB	A-401	Elevation 4B - There are 2 notes that read T-4C.			
A-34	KCB	A-351	Tag datums on wall sections, typ.			
A-35	KCB	A-351	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			

A-36	KCB	A-351	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-37	KCB	A-351	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-38	KCB	A-351	Wall Section 1 - The EIFS note here is different than the typical EIFS note. Was this intentional?			
A-39	KCB	A-352	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-40	KCB	A-352	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-41	KCB	A-353	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-42	KCB	A-353	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-43	KCB	A-401	Include an enlarged plans for the toilet rooms on this sheet.			
A-44	KCB	A-511	Hatch cut through steel for clarity.			
A-45	KCB	A-511	Detail 1 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-46	KCB	A-511	Detail 1 - show insulation continuing to the cut line.			
A-47	KCB	A-512	Hatch cut through steel for clarity.			
A-48	KCB	A-512	Details 2 and 4 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-49	KCB	A-512	Make all cut lines a consistent size.			
A-50	KCB	A-513	Hatch cut through steel for clarity.			
A-51	KCB	A-513	Detail 1 - insulation thickness at wall appears to be the wrong thickness.			
A-52	KCB	A-514	Hatch cut through steel for clarity.			
A-53	KCB	A-515	Some of the detail titles are missing and one is conflicting with detail notes.			
A-54	KCB	A-515	The note at the insulation on this sheet does not match the insulation note on the wall sections.			
A-55	KCB	A-602	Refer to S-101 - Plan Notes: says refer to arch drawings for slab finish requirements. I do not see where that arch drawings addresses this especially if this is referring to float vs. trowel vs. broom finish, coordinate. Spec section 07 18 00 (attic waterproofing) does list specific requirements.			
A-56	KCB	A-602	Add lockers to the Material Index and indicate color and pattern.			
A-57	KCB	A-602	Finish schedule - what does SC stand for (sealed concrete, stained concrete)? It is not on the materials index.			
A-58	KCB	A-603	Refer to S-513 - The structural drawings show control joints in concrete and where CMU meets concrete but they do not appear to address control joints within CMU walls. A detail and /or note need to be added somewhere.			

Design Review
VISITOR GUARD HOUSE – BUILDING 8
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
MECHANICAL COMMENTS						
M-1	RHM	8 M-101	Provide heater in Janitor's Closet 016			
M-2	RHM	8 M-101	Provide heater in Toilet 013			
M-3	RHM	8 M-501	Detail 2 - compare to drawing 8 M-101 - are the balancing valve and specialties to be 25mm or 50mm? Clarify and indicate main balancing valve flow rate on drawings.			
M-4	RHM	8 M-101	Move mechanical text off of building background to improve clarity.			
M-5	RHM	8 M-101	It is unlikely that 199l/s can leak through 2 single leaf exterior doors to provide makeup air for all exhaust systems. Provide for tempered make-up air to maintain design flow rates at reasonable pressure drop from interior to exterior.			
M-6	RHM	8 M-501, 8 E-101	Control sequence for 8-EF-1 calls for interlock with light switch. This fan serves two rooms, both of which need ventilation when occupied. Electrical drawing 8 E-101 shows a separate switch. Coordinate and amend so that fan runs when either space is occupied.			
M-7	RHM	8 M-501, 8 P-501	Provide detail for heating piping floor penetration; similar to detail 4 on 8 P-501.			
M-8	RHM	M-101	FT-1 is shown interfering with wall in Break Room 011. Correct drafting.			
M-9	RHM	Mechanical cut sheets	Provide cut sheets for registers and grilles.			
M-10	RHM	Mechanical cut sheets	Highlight mechanical cut sheets with specific selections similar to plumbing cut sheets.			
M-11	RHM	Mechanical cut sheets, mechanical calculations	Include pages 8 and 9 of Modine FTR catalog which show capacity correction factors, along with calculations comparing capacity of FTR at the design conditions (water velocity actually approx 0.25fpm not scheduled 3.0fpm, correction factor equals about 0.9, entering air actually about 70 not scheduled 65, correction factor equals about 0.93) to the heat losses shown in the calculations. In general, heating elements shown on drawings, corrected to roughly 500btu/ft, appear to have less capacity than may be needed.			
M-12	RHM	8 M-501	Hot Water Fin Tube Radiator Schedule- For both FT-1 and FT-2 Rating Capacity, change values to 0.577 (metric) and 0.600 (i-p) to reflect KW/M and MBH/FT labels.			
M-13	RHM	8 M-501	Hot Water Fin Tube Radiator Schedule- Add a column for "ENCLOSURE HEIGHT" and a value of 200mm (8") for both FT-1 and FT-2.			
M-14	RHM	Mechanical calculations	Infiltration is calculated as 0.1cfm/sf, however all exhaust make-up air is via infiltration as designed at approximately 420cfm or 0.26cfm/sf infiltration. Revise loads calculations and radiation capacity accordingly.			

Design Review
VISITOR GUARD HOUSE – BUILDING 8
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

M-15	RHM	spec 230516	Specify type of thermal expansion compensators required and edit out remainder. Preferred system includes flexible hose loops to avoid pressure thrust load calculations for anchors.			
M-16	RHM	spec 230518	Paragraph 3.1.B.1: clarify which escuteons are to be used on this project and where, edit out the unused remainder.			
M-17	RHM	spec 230519	Where are venturi flowmeters used? Refer to location schedule in 3.1.R: 1) Define hydronic zone - this is either every FTR control valve which defines the heating zones, one set per building as shown on details, or it could be there is only one zone. (hydronic reset schedule?) 3) There are no "air handling units" - are thermometers required at all duct coils? 4) There is not thermal storage tank - clarify. 5) Are outside, return, supply, and mixed air ducts applicable to project?			
M-18	RHM	spec 230523	2.2 - three piece ball valves may be excessive for this service. 2.3 - Iron body ball valves may be excessive for this service. 2.5 - High performance butterfly valves are excessive for this service. 2.12 - Chainwheels appear to not be needed.			
M-19	RHM	spec 230529	Edit to remove hangars and supports not needed in this project (especially application schedules in 3.6). Paragraph 3.1.M: Pipe slopes are not indicated on drawings - are they in spec?			
M-20	RHM	spec 230548	Confirm that an Ip of 1.5 required, as this raises costs for restraint system substantially. Equipment bases specified in 2.2 do not appear on drawings; if they are required, show on drawings and include in Part 3 execution. 2.3.D - cables should be specified as pre-stretched cables as part of UL listed or OSHPOD approved assemblies (not allowing installer to assemble from loose miscellaneous components)? 3.7.A - Are air mounted systems being used? If not, delete.			
M-21	RHM	spec 230553	Include below grade pipe locator tape. 2.4 - Consider stencils or self adhesive labels in lieu of engraved labels for duct.			
M-22	RHM	spec 230593	Paragraph 1.5.A: NEBB certification (per 1.3.B) is equal to these. AABC and/or TABB certified firms may not be available locally. Consider the Afghan equal to these agencies by including a phrase similar to "or the local equivalent". Include details on setting up variable speed drive pumping systems that include the design frequency and wide open or barely non-overloading triple duty valve settings. 3.12 and 3.15.F are in conflict, as are a few other specific equipment testing requirements - clarify.			
M-23	RHM	specs 230713, 230716, and 230719	These three insulation specifications include insulation types and procedures in excess of that required for this project. The specifications should be edited by removing superfluous content. The piping insulation specification needs to include an appropriate below grade insulation system.			

Design Review
VISITOR GUARD HOUSE – BUILDING 8
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

M-24	RHM	spec 232113	2.1.A&B - types L and K? 2.6.F is not needed. Below grade piping is not specified but should be.			
M-25	RHM	spec 233113	2.1.A and 2.2.A - static pressure class is not indicated. 2.3.B.2 - exposed duct mill phosphating should reference ASTM A2092. 2.3.D - tie rods are not required or advised for the small duct shown. 2.4.D solvent based sealant - consider deleting due to toxicity of volatile components. 2.5, 2.6, 3.5 and 3.6 - delete to avoid conflicts and instead reference appropriate spec sections. 3.9.C - is this cleanliness testing equipment available on site? 3.10 - is full cleaning of all new duct required? This may be excessive. Note NADCA 1992 (3.10.E.5) is very outdated - refer to latest edition.			
M-26	RHM	spec 233300	2.2.A.2 - refer to ASTM A2092. 2.2.D - not required. 2.4.A&B - Which are required and where? Consider adding locations required to 3.1.D. 2.4.B & D aluminum dampers are used for aluminum duct typically and may be deleted. 2.5 - control dampers are specified in section 230900; 2.10 - delete from one section or the other (prefer to leave under controls and reference only in this section). 2.6.B - confirm dynamic type are required. 2.9.C and 3.1.H.4 - pressure relief access doors are very costly and are probably not needed in duct this small due to lack of dynamic pressure surge upon damper closure. Verify if this is a true requirement prior to specifying this. Confirm other specialized accessories are required.			
M-27	RHM	spec 233423	2.2.F - How many of these accessories are needed? (add list to schedule?)			
M-28	RHM	spec 233713	General - delete unused types.			
M-29	RHM	spec 234100	Air filtration section is missing. Confirm it is not required or add to spec.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
PLUMBING COMMENTS						
P-1	DCG	8 P-101	Detail 1: Identify (ID) riser pipe near FD-1 of Mech 017. ID pipe sizes on mains.			
P-2	DCG	8 P-701	Detail 1 Sanitary Riser: ID 15 CW from trap primer on 2- 80 FD-2 and 1- 100 FD-1 locations			
P-3	DCG	8 P-701	Detail 1 Water Riser: Amend detail number to be #2 (both details on sheet are called #1). Amend water heater detail to match water heating detail on sheet 8 P-501. Add shock absorbers on water lines.			
P-4	DCG	8 P-501	Detail 1: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-5	DCG	8 P-501	Detail 3: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-6	DCG	8 P-501	Detail 5: Add thermometer at outlet of mixing valve? On hot water return line. Add unions at connection to water heater. Add union and shutoff valve on line to expansion tank.			
P-7	DCG	Specifications	Section 220523: Purge out valves not wanted for this project (for example: Do you want gate or globe valves?)			
P-8	DCG	Specifications	Section 220529: Purge out hanger materials not wanted for this project (for example fiberglass hangers or struts?)			
P-9	DCG	Specifications	Section 220719: Purge out insulation materials not wanted for this project (for example mastics or jacketing?)			
P-10	DCG	Specifications	Section 221116: Purge out piping materials not wanted for this project (for example PVC or PP piping?)			
P-11	DCG	Specifications	Section 221119: 2.3, A: Where installed? 2.4, A: Where installed? 2.5: Select which balance valve for this project. 2.6, A: Where installed?			
P-12	DCG	Specifications	Section 221316: Purge out piping materials not wanted for this project (for example ABS piping?)			
P-13	DCG	Specifications	Section 22132: 2.2: Select which type of oil interceptor you want for this project			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ELECTRICAL COMMENTS						
E-1	DJS	8 E-002	General note 5. Remove sentence "All electrical local...shall be white UNO." and make it its own note.			
E-2	DJS	8 E-002	General Note 5 states MC cable can be used for all branch circuit wiring except the homeruns. General note 9 states all raceways are surface mounted from the panelboard to the utilization devices, UNO. Is it the intent to install MC cable exposed as these notes infer?			
E-3	DJS	8 E-101	Consider adding an exit light over the exterior door from Waiting/Reception			
E-4	DJS	8 E-101	Consider adding an exit light over the exterior door from Break Room/Kitchenette			
E-5	DJS	8 E-101	Consider adding 3 way and 4 way lighting switches on both sides of the doors between Waiting/Reception and Break Room/Kitchenette			
E-6	DJS	8 E-101	Notes on right side of sheet for underground conduit state to provide pull strings which is in conflict with Partial One Line Diagram - Building 8 on drawing 8 E-501			
E-7	DJS	8 E-101	Provide power connection for ETP-1 in the Mech. Rm.			
E-8	DJS	8 E-102	Add maintenance outlet in attic space			
E-9	DJS	8 E-103	Lightning air terminal quantities and locations are not proper for a gently sloping shed roof			
E-10	DJS	8 E-501	Panel schedule G-PP1 does not have a 30A2P breaker nor the load for the covered Bus Shelter feeder shown in the Partial One Line Diagram - Building 8			
E-11	DJS	8 E-501	No light fixture cut sheets are included in the DA			
E-12	DJS	8 E-501	Mechanical Equipment Connection Schedule, verify if motor controllers are required for the exhaust fans			
E-13	DJS	8 E-501	There are no system grounding/bonding details			
E-14	DJS	Spec 260519	Add metric wire sizes along with AWG wire sizes			
E-15	DJS	Spec 260519	Part 3 infers that MC cables can be installed exposed			
E-16	DJS	Spec 260526	Add metric wire sizes along with AWG wire sizes			
E-17	DJS	Spec 260529	Part 3.1 C. is not edited			
E-18	DJS	Spec 260533	Part 3.2 A. Delete "Comply with NECA 102 for aluminum conduits" since aluminum is not specified			
E-19	DJS	Spec 260533	Part 3.2 F. Define "for which few bends are allowed"			
E-20	DJS	Spec 260536	Confirm specification section is not required			
E-21	DJS	Spec 260553	Part 3.2 J. 1. Delete sentence restricting use of underground warning tape			
E-22	DJS	Spec 260553	Part 3.2 O. 1. a. is not edited			
E-23	DJS	Spec 260573	Part 1.5 b. 1. requires licensing in the state where Project is located, modify requirement			
E-24	DJS	Spec 262416	Part 1.2 A. 3. delete load centers from list			
E-25	DJS	Spec 262713	Confirm specification section is not required			
E-26	DJS	Spec 262726	Add metric wire sizes along with AWG wire sizes			
E-27	DJS	Spec 262726	Part 3.4 B. 1. Modify voltages for 220 volts			
E-28	DJS	Spec 265100	Part 2.8 C. delete self luminous signs			
E-29	DJS	Spec 265600	Confirm specification section is not required			



Design Review
VISITOR GUARD HOUSE – BUILDING 8
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

E-30	DJS	DA	The DA does not include any voltage drop calculations, short circuit calculations or lighting calculations			
------	-----	----	--	--	--	--

COMMUNICATIONS COMMENTS						
C-1	JLB	DA	The telecommunications DA is one paragraph which has been used for all buildings reviewed. It is not specific to any one building. What is said in the DA regarding telecommunications appears to be true with the exception of protectors for cabling. No specification and or drawing detail contained any information regarding protectors. Protectors will need to be provided and should be specified.			
C-2	JLB	General Reference	No Telecommunications site drawings and/or specifications were provided for this review.			
C-3	JLB	8 E-001	Telecommunications Symbols: The first symbols on this page indicates an arrow with a tag that indicates the corresponding telecommunications room that the conduit is associated with. This symbol is not used on any of the other drawings.			
C-4	JLB	8 E-001	Telecommunications Symbols: None of the outlet symbols give quantities of cables therefore these outlet symbols should be identified on drawing 1 E-802 next to the corresponding "typical port outlet." Without this information it correct cable counts for material quantities and pathway fills cannot be determined.			
C-5	JLB	8 E-001	Telecommunications Symbols: A solid triangle symbol represents a telephone outlet according to the symbol definition. If this is correct then the mounting height should be reviewed as telephone outlets are normally mounted at 1219mm AFF per code.			
C-6	JLB	8 E-001	Telecommunications Symbols: An encircled JT symbolizes a surface mounted J/Box for tele/data. It is not clear whether or not this intended to be an empty pathway or if this symbol represents a tele/data outlet. If this symbol is intended to represent a tele/data outlet then quantities or outlet type needs to be identified along with the encircled JT symbol.			
C-7	JLB	8 E-001	Telecommunications Symbols: The symbol for TGB is not indicated on any other drawings. This symbol should appear in the telecommunications rooms.			
C-8	JLB	8 E-001	Telecommunications Symbols: The ladder cable tray size indicated on this drawing is in conflict with the size specified in Div 27 10 00.			
C-9	JLB	8 E-001	Communications rack/ cabinet symbols should be indicated in the list as they are shown on the layout drawings			
C-10	JLB	8 E-101	Communications outlet shown in conflict with communications rack in the telecommunications room.			
C-11	JLB	8 E-101	Consider moving Telecommunications outlets out from under windows in order to simplify construction. Ex grid B-1 and A-1			
C-12	JLB	8 E-101	Consider offsetting Communication rack and Electrical panel to provide better working clearance in the Telecommunications room			

Design Review
VISITOR GUARD HOUSE – BUILDING 8
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

C-13	JLB	8 E-101	Add note to this drawing indicating that conduits for communications outlets are to be home run to the telecommunications room if cable tray is not intended to be used.			
C-14	JLB	8 E-802	Conduit sizes for telecommunications outlets need to be coordinated. Several sizes are indicated through out the design documents. Ex Typical outlet details indicate 25mm conduits. Symbols page indicates 27mm conduits. Detail 6 on E-802 indicates 20mm conduits. Div 27 05 28 indicates min 21mm conduits. (Fill ratios need to be considered as well)			
C-15	JLB	8 E-802	Detail 2: Indicates a standard 112.5mm square double gang outlet box however a single gang outlet box is depicted.			
C-16	JLB	8 E-802	Detail 6: Indicates Cat 3 cabling is used for voice. Coordinate with other details and spec's as cat 3 cabling is not mentioned elsewhere.			
C-17	JLB	8 E-802	Detail 7: Indicates telecom raceway installation. Check TIA/EIA 569-A and or 569-B standards. Change in direction of tele/data cabling is not allowed within a pull box. The Detail indicates that a daisy chain method of distribution will be used. If this format is to be used the feed conduits may need to be upsized to accommodate the cabling from multiple outlets.			
C-18	JLB	8 E-802	Provide detail showing the Intra building backbone cabling logical/online.			
C-19	JLB	Div 27 05 28	2.6 J: Device box size in conflict with size indicated on drawing E-802			
C-20	JLB	Div 27 05 28	3.2-I coordinate this section with notes on the drawings referring to embedding conduits in the slab. Make sure that they don't contradict each other.			
C-21	JLB	Div 27 05 28				
C-22	JLB	Div 27 05 28	Consolidate 3.2-F into 3.2-S as F leads you to believe that only two 90 degree bends are allowed.			
C-23	JLB	Div 27 05 36	2.6 A: Select testing standards			
C-24	JLB	Div 27 05 36	Remove 3.1 K and J: single rail cable trays are not being used nor are buss assemblies.			
C-25	JLB	Div 27 05 36	3.5 A Select or remove bracketed selection.			
C-26	JLB	Div 27 10 00	2.2 A Coordinate plywood back board size on drawings with this spec Drawings say 21mm and specs indicate 19mm			
C-27	JLB	Div 27 10 00	2.2 A Section 061000 Rough carpentry is not listed with the table of contents for this project. Change spec reference or provide 061000			
C-28	JLB	Div 27 10 00	2.5 B 2: coordinate TGB size indicated on drawings with the one specified here.			
C-29	JLB	Div 27 13 00	1.2 A Remove pathways in its entirety from this spec. Include any pertinent information into Div 27 05 28 communications pathway spec..			
C-30	JLB	Div 27 13 00	2.2. A Remove back boards from this spec. Back boards are covered in 27 11 00.			

Design Review
VISITOR GUARD HOUSE – BUILDING 8
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

C-31	JLB	Div 27 13 00	2.1 D coordinate outlet box size with drawings and other specs as there are different sizes shown on each.			
C-32	JLB	Div 27 13 00	Consolidate back boards into Div 27 11 00. Its not recommended to specify the same thing in multiple locations.			
C-33	JLB	Div 27 13 00	2.3 B Remove the brackets or delete the selection for overall jacket.			
C-34	JLB	Div 27 13 00	There is no specification for fiber optical cabling. Only installation requirements. Review design and determine if and where Fiber Optical cabling will be necessary.			
C-35	JLB	Div 27 15 00	1.2 A Remove Pathways from this spec. Pathways are outlined in Div 27 05 28.			
C-36	JLB	Div 27 15 00	2.3. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-37	JLB	Div 27 15 00	2.5 B: Remove " formed into 25-pair, binder groups " This is not a characteristic of four pair cabling.			

Design Review
VISITOR GUARD HOUSE – BUILDING 8
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
FIRE ALARM COMMENTS						
FA-1	DJS	Spec/DA/Drawings	There is no fire alarm to review			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
STRUCTURAL COMMENTS						
S1	RB	17 S-001	In the Structural Abbreviations, AISC should read "Construction" instead of "Contractors".			
S2	RB	17 S-002	Cast-in place Concrete, note 27, the reinforcing clearance for "concrete cast against and permanently exposed to earth" should be 75mm per ACI(M).			
S3	RB	17 S-002	Steel Deck note 3; The roof deck appears to be 3"x22 gage, Type N deck. Please verify that the minimum section properties (S & I) are correct. They appear too low.			
S4	RB	17 S-101	Note 2 - revise to "compacted granular base".			
S5	RB	17 S-101	Note 5 - How does the step footing transition from a thickened slab at the interior wall to a strip footing with CMU stem wall at the exterior wall? Clarify the detail.			
S6	RB	17 S-102	At the roof hatch, coordinate the size and location with dwg A-515. The dimensions are different.			
S7	RB	17 S-103	Additional embedment plates are required at 1180 south of grid A. See Sect 2/S-531.			
S8	RB	17 S-501	At Detail 3, If open stirrups and crossties are used in lieu of closed ties - provide note "Spandrels - Place 90 deg end of crosstie hook on slab-confined side. Interior - Alternate 90 deg ends of consecutive crossties."			
S9	RB	17 S-502	Detail 8/S502 - indicate a 90 deg hook for wall vertical steel to develop into the SOG.			
S10	RB	17 S-503	At section 1, the designations "wall/column" and "stem wall/column" imply that a pipe could run thru the column, above the footing. This should not be permitted. Please clarify that the pipe runs thru the wall and not the column.			
S11	RB	17 S-503	At Section 3, coordinate with C-601 and Sect 12/S-502. Verify that the 100mm floor drain piping will run under the thickened slab for the interior walls.			
S12	RB	17 S-503	At Section 4, coordinate the trench reinforcing with section 1/C-603.			
S13	RB	17 S-503	At section 4, coordinate the trench grating with section 1/C-603, the Arch dwgs and the specifications. The grating is not well defined. Call out the thickness and spacing of the bearing bars and cross bars.			
S14	RB	17 S-512	At Detail 1, Note 1 should read "beam sections". No beam schedule is provided.			
S15	RB	17 S-512	What happens to the ends of the concrete beams at the CMU piers? Do the beams extend thru the piers and the piers continue up, above the roof slab? If not, how do the beam top and bottom bars extend into CMU piers? Provide details to clarify,			
S16	RB	17 S-521	At Section 2, coordinate the beam depth with Arch section 2/A-351. The depths are different.			

Design Review
BUS SHELTER – BUILDING 18
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

<u>Excel Worksheet</u>		
<u>Name</u>	<u>Description</u>	<u>Printed Page Number</u>
Index Sheet	Excel Workbook Index	1
Architectural	Architectural Drawing Comments	2
Mechanical	Mechanical Drawing Comments	3
Plumbing	Plumbing Comments	4
Electrical	Electrical Drawing Comments	5
Communications	Communications Comments	6
Fire Alarm	Fire Alarm Comments	7
Structural	Structural Drawing Comments	8

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ARCHITECTURAL DRAWINGS						
A-1	KCB	Spec 07 41 13	Make sure roof load requirements match the structural notes, it appears you are calling for different snow load requirements (check others too).			
A-2	DJS	18 G-001	Title block Building Number indicates 10 instead of 18			
A-3	KCB	A-001	There are abbreviations used on the drawings that are not coordinated with the architectural abbreviations list including but not limited to the following: REQ, MM, ELEV.			
A-4	KCB	A-101	The elevation tags and detail titles seem too small compared to the dimension text size.			
A-5	KCB	A-101	Key in the building sections.			
A-6	KCB	A-401	Is the steel channel that is acting as a gutter sloped for positive drainage?			
A-7	KCB	A-401	Coordinate the note for the roof panel with structural as they call for galvanized steel deck.			
A-8	KCB	A-402	Coordinate the note for the roof panel with structural as they call for galvanized steel deck.			

Design Review
BUS SHELTER – BUILDING 18
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
MECHANICAL COMMENTS						
M-1	RHM	Drawings	There is no mechanical / HVAC work required for this open structure			

Design Review
BUS SHELTER – BUILDING 18
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
PLUMBING COMMENTS						
P-1	DCG	Spec/DA/Drawings	No plumbing system to review			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ELECTRICAL COMMENTS						
E-1	DJS	DA	No light fixture cut sheets are included in the DA			
E-2	DJS	18 E-101	The DA states that a complete lightning protection system is provided for the entire MoPH complex. There is no lightning protection system on this structure			
E-3	DJS	18 E-101	There are no general notes for this building			
E-4	DJS	18 E-101	Consider adding a photocell to the floor plans with a note to wire all the light fixtures thru the photocell.			
E-5	DJS	18 E-101	Add conductor size to branch circuit raceway to Guard House Building 8			
E-6	DJS	18 E-101	Consider using T8 instead of T5 lamps for consistency throughout the project			
E-7	DJS	18 E-101	There are no system grounding/bonding details			
E-8	DJS	Spec 260519	Add metric wire sizes along with AWG wire sizes			
E-9	DJS	Spec 260519	Part 3 infers that MC cables can be installed exposed			
E-10	DJS	Spec 260526	Add metric wire sizes along with AWG wire sizes			
E-11	DJS	Spec 260529	Part 3.1 C. is not edited			
E-12	DJS	Spec 260533	Part 3.2 A. Delete "Comply with NECA 102 for aluminum conduits" since aluminum is not specified			
E-13	DJS	Spec 260533	Part 3.2 F. Define "for which few bends are allowed"			
E-14	DJS	Spec 260536	Confirm specification section is not required			
E-15	DJS	Spec 260553	Part 3.2 J. 1. Delete sentence restricting use of underground warning tape			
E-16	DJS	Spec 260553	Part 3.2 O. 1. a. is not edited			
E-17	DJS	Spec 260573	Part 1.5 b. 1. requires licensing in the state where Project is located, modify requirement			
E-18	DJS	Spec 262416	Part 1.2 A. 3. delete load centers from list			
E-19	DJS	Spec 262713	Confirm specification section is not required			
E-20	DJS	Spec 262726	Add metric wire sizes along with AWG wire sizes			
E-21	DJS	Spec 262726	Part 3.4 B. 1. Modify voltages for 220 volts			
E-22	DJS	Spec 265100	Part 2.8 C. delete self luminous signs			
E-23	DJS	Spec 265600	Confirm specification section is not required			
E-24	DJS	DA	The DA does not include any voltage drop calculations, short circuit calculations or lighting calculations			

Design Review
BUS SHELTER – BUILDING 18
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
COMMUNICATIONS COMMENTS						
C-1	JLB	Spec/DA/Drawings	No communications content to review			

Design Review
BUS SHELTER – BUILDING 18
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
FIRE ALARM COMMENTS						
FA-1	DJS	Spec/DA/Drawings	There is no fire alarm system to review			

Design Review
BUS SHELTER – BUILDING 18
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
STRUCTURAL COMMENTS						
S1	FRS	18 S-001	In Structural Abbreviations, AISC should read "Construction" not "Contractors". Remove extra spaces D.3. Cast-in-place Concrete requirements.			
S2	FRS	18 S-002	CIP Conc note 27, Table 2 - revise cast against earth to 75mm			
S3	FRS	18 S-101	Verify dimensions against architectural layout with consideration to modular metric block unit dimensions assumed to be 200mm. If blocks are obtained locally, are the forms set for "hard" metric or "soft" metric units? - avoid special forms if possible and may help reduce block cutting if architectural elements are metric.			
S4	FRS	18 S-101	Note 2 - revise to "compacted granular base".			
S5	FRS	18 S-101	Why a curb around eastern style water closet? Refer to catalogue cut detail to clarify intended blockout size and ledge.			
S6	FRS	18 S-501	If open stirrups and crossties are used in lieu of closed ties - provide note "Spandrels - Place 90deg side of crosstie hook on slab-confined side. Interior - Alternate 90deg ends of consecutive crossties."			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

<u>Excel Worksheet</u>		
<u>Name</u>	<u>Description</u>	<u>Printed Page Number</u>
Index Sheet	Excel Workbook Index	1
Architectural	Architectural Drawing Comments	2-5
Mechanical	Mechanical Drawing Comments	6-8
Plumbing	Plumbing Comments	9
Electrical	Electrical Drawing Comments	10
Communications	Communications Comments	11-12
Fire Alarm	Fire Alarm Comments	13
Structural	Structural Drawing Comments	14-15

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ARCHITECTURAL DRAWINGS						
G-1	DJS	21 G-001	In the title block, the building number is 10 instead of 21			
A-1	KCB	Spec 07 21 00	Is there any foam plastic insulation that is not part of the EIFS system? If not remove from this spec section as the EIFS insulation is in the EIFS spec.			
A-2	KCB	Spec 07 41 13	Under performance requirements the metal soffit panels are not listed. Coordinate with the structural engineer to see what loads the soffits will need to resist and make sure they are listed in this specification.			
A-3	KCB	Spec 07 41 13	Make sure roof load requirements match the structural notes, it appears you are calling for different snow load requirements (check others too).			
A-4	KCB	Spec 07 41 13 and 07 42 13	There are 2 different levels of galvanization required under miscellaneous metal framing for these 2 spec sections. Shouldn't they be the same? Which one is more readily available in-country?			
A-5	KCB	Specs 07 42 13 and 08 90 00	Which of these is used where? - it is not clear.			
A-6	KCB	Spec 08 41 13	Paragraph 2.6, L. The maximum height listed 13mm is technically higher than 1/2" (ADA) and it differs from what is listed in 08 71 11 (12.7mm).			
A-7	KCB	Spec 08 80 00	Fire rated glazing is included in this specification however based on the drawings it does not appear there is a need for any in Phase 1. Is it needed for Phase 2?			
A-8	KCB	Spec 08 80 00	Where are glass types called out on the drawings? What is the intent of including delegated design since specific design criteria has not been provided?			
A-9	KCB	Spec 09 93 00	Where is this used? I do not see it called out on the drawings as either a wall finish, floor finish or exterior finish. If it is SC on the Finish Schedule make that clear.			
A-10	KCB	Spec 10 21 13	You have 2 specs with 2 different materials but neither one is called out on the drawings.			
A-11	KCB	Spec 10 44 13 and 10 44 16	Are all fire extinguishers in cabinets or are some bracket mounted? If they are in cabinets add detail to the drawing set showing how that works in the typical wall.			
A-12	KCB	Spec 10 44 13	Is there any need for 2 hour cabinets?			
A-13	KCB	Spec 10 82 13	Is this specification for building mounted sunshades? I do not see any sunshades on the architectural drawings.			
A-14	KCB	Spec 12 36 61	Paragraph 2.2, A, 4. - Color is indicated on Materials Index on the drawings.			
A-15	KCB	Drawings	Throughout the set there is inconsistent text size, sheet to sheet and detail to detail.			
A-16	KCB	Drawings	In the title block for all drawings "Building Number" is filled in as 10 and building 10/11 is hatched on the Key Plan.			
A-17	KCB	LS-001	Add a paragraph about accessibility.			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-18	KCB	A-001	There are abbreviations used on the drawings that are not coordinated with the architectural abbreviations list including but not limited to the following: ELEV, M, MM, EIFS, PTN.			
A-19	KCB	A-101	The 2100MM dimension doesn't appear to go to anything.			
A-20	KCB	A-101	Move the dimension that is on top of the roof hatch so that it is readable.			
A-21	KCB	A-101	The structural grid lines are not showing up as centerlines, they are continuous.			
A-22	KCB	A-101	Make sure dimensions are coordinated with structural. There seem to be some discrepancies. Are your walls drawn at 205 (actual size of 8" cmu in MM)? Structural has the walls dimensioned as 205. See S-101.			
A-23	KCB	A-102	Consider showing air terminals on this roof plan for coordination purposes.			
A-24	KCB	A-102	At the location shown is there enough room to get out of the roof hatch?			
A-25	KCB	A-102	The elevation tags for elevation 3 and 4 are reversed.. This is typical for all plans where they are tagged.			
A-26	KCB	A-103	Consider showing all items that will be mounted on or hung from the ceiling on your reflected ceiling plan. These can be excellent coordination drawings to find conflicts between all trades.			
A-27	KCB	A-103	What are the things drawn on this plan just to the right of the screen room label?			
A-28	KCB	A-201	Elevation 1 - The exterior lights that are shown here are not on the electrical drawings.			
A-29	KCB	A-201	Elevations 2, 3 and 4 - Have the connections between the galvanized channels around the corrugated metal panels been designed? They are not drawn on the structural drawings.			
A-30	KCB	A-301	All the Building Section titles are referring to A-201.			
A-31	KCB	A-301	Check the LTSCALE as the lines in the windows and doors are not showing up dashed.			
A-32	KCB	A-301	Building Section 2 - show roof framing.			
A-33	KCB	A-301	Building Section 1- Does this roof framing match the structural drawings? And does the roof hatch conflict with it?			
A-34	KCB	A-351	Tag datums on wall sections, typ.			
A-35	KCB	A-351	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-36	KCB	A-351	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-37	KCB	A-351	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-38	KCB	A-351	Wall Sections 1 and 2 - the foundations as drawn here do not match the structural details.			
A-39	KCB	A-352	Wall Sections 1 and 2 - the foundations as drawn here do not match the structural details.			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-40	KCB	A-352	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-41	KCB	A-352	At the note pointing to the attic insulation the terminology			
A-42	KCB	A-352	Where is the fluid applied water barrier specified?			
A-43	KCB	A-352	The detail that is keyed in as 1/A-512 SIM is not keyed in anywhere else as drawn so why not modify the detail and get rid of SIM?			
A-44	KCB	A-352	Wall Section 1 - A thermal break is needed at the slab detail at the door. Consider adding a pour stop and a gap to put some insulation in.			
A-45	KCB	A-401	How does fin tube work with casework, add details to show this.			
A-46	KCB	A-501	How is stone anchored to the CMU and concrete back-up?			
A-47	KCB	A-501	Consider detailing exterior wall types and then key those into the plan details.			
A-48	KCB	A-501	Is there any way to eliminate the thermal gaps that occur at the masonry piers?			
A-49	KCB	A-511	Details 2 and 3 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-50	KCB	A-511	Detail 3 - show insulation continuing to the cut line.			
A-51	KCB	A-511	Will there be a Section Detail 4? If not tag as Not Used.			
A-52	KCB	A-511	Hatch all steel that is cut through for clarity.			
A-53	KCB	A-512	Detail 1 - insulation thickness at wall appears to be the wrong thickness.			
A-54	KCB	A-512	Detail 1 - Where does this condition exist? Modify this detail to match wall sections on sheet A-352.			
A-55	KCB	A-512	Detail 2 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-56	KCB	A-514	Detail 2 - architectural louver note has the word architectural twice.			
A-57	KCB	A-515	The note at the insulation on this sheet does not match the insulation note on the wall sections.			
A-58	KCB	A-601	Detail 6 - Clarify "cast stone cap" versus spec for architectural precast concrete.			
A-59	KCB	A-601	Detail 7- create a thermal break in slab under the door.			
A-60	KCB	A-601	Detail 8 - What do the masonry anchors attached to?			
A-61	KCB	A-601	Hatch all steel that is cut through for clarity.			
A-62	KCB	A-601	Where is the speak-thru device specified?			
A-63	KCB	A-602	Refer to S-513 - The structural drawings show control joints in concrete and where CMU meets concrete but they do not appear to address control joints within CMU walls. A detail and /or note needs to be added somewhere.			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-64	KCB	A-602	Refer to S-101 - Plan Notes: says refer to arch drawings for slab finish requirements. I do not see where arch drawings addresses this especially if this is referring to float vs. trowel vs. broom finish, coordinate. Spec section 07 18 00 (attic waterproofing) does list specific requirements.			
A-65	KCB	A-602	Finish schedule - what does SC stand for (sealed concrete, stained concrete)? It is not on the materials index.			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
MECHANICAL COMMENTS						
M-1	RHM	21 M-101	FTR piping is shown obstructing access to roof hatch - coordinate.			
M-2	RHM	21 M-101	FTR is shown interfering with file cabinet placement - coordinate.			
M-3	RHM	21 M-101	FTR run-out piping is shown with risers through countertop - revise to drop to side of counter area and extend piping under counter.			
M-4	RHM	21 M-101	Move mechanical text off of building background to improve clarity.			
M-5	RHM	21 M-101 and 21 M-501	Scheduled radiation type FT-2 does not appear on M-101. Remove from schedule.			
M-6	RHM	21 M-101	Total scheduled heating water flow rate is 3.2gpm. Building supply lines at 50mm (2") are oversized and due to extremely low velocity may lead to excessive supply water temperature loss and slow building warm-up. Building main heating line size should be 25mm (1") or 32mm (1-1/4") max.			
M-7	RHM	Mechanical cut sheets, mechanical calculations	Include pages 8 and 9 of Modine FTR catalog which show capacity correction factors, along with calculations comparing capacity of FTR at the design conditions (water velocity actually approx 0.25fpm not scheduled 3.0fpm, correction factor equals about 0.9, entering air actually about 70 not scheduled 65, correction factor equals about 0.93) to the heat losses shown in the calculations. In general, heating elements shown on drawings, corrected to roughly 500btu/ft, appear to have less capacity than may be needed.			
M-8	RHM	21 M-501	Detail 2 - compare to drawing 21 M-101 - are the balancing valve and specialties to be 25mm or 50mm? Clarify and indicate main balancing valve flow rate on drawings.			
M-9	RHM	Mechanical cut sheets	Highlight mechanical cut sheets with specific selections similar to plumbing cut sheets.			
M-10	RHM	spec 230518	Paragraph 3.1.B.1: clarify which escutcheons are to be used on this project and where, edit out the unused remainder.			
M-11	RHM	spec 230523	2.2 - three piece ball valves may be excessive for this service. 2.3 - Iron body ball valves may be excessive for this service. 2.5 - High performance butterfly valves are excessive for this service. 2.12 - Chainwheels appear to not be needed.			
M-12	RHM	spec 230529	Edit to remove hangars and supports not needed in this project (especially application schedules in 3.6). Paragraph 3.1.M: Pipe slopes are not indicated on drawings - are they in spec?			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-13	RHM	spec 230548	Confirm that an Ip of 1.5 required, as this raises costs for restraint system substantially. Equipment bases specified in 2.2 do not appear on drawings; if they are required, show on drawings and include in Part 3 execution. 2.3.D - cables should be specified as pre-stretched cables as part of UL listed or OSHPOD approved assemblies (not allowing installer to assemble from loose miscellaneous components)? 3.7.A - Are air mounted systems being used? If not, delete.			
M-14	RHM	spec 230553	Include below grade pipe locator tape. 2.4 - Consider stencils or self adhesive labels in lieu of engraved labels for duct.			
M-15	RHM	spec 230593	Paragraph 1.5.A: NEBB certification (per 1.3.B) is equal to these. AABC and/or TABB certified firms may not be available locally. Consider the Afghan equal to these agencies by including a phrase similar to "or the local equivalent". Include details on setting up variable speed drive pumping systems that include the design frequency and wide open or barely non-overloading triple duty valve settings. 3.12 and 3.15.F are in conflict, as are a few other specific equipment testing requirements - clarify.			
M-16	RHM	specs 230713, 230716, and 230719	These three insulation specifications include insulation types and procedures in excess of that required for this project. The specifications should be edited by removing superfluous content. The piping insulation specification needs to include an appropriate below grade insulation system.			
M-17	RHM	spec 230900	2.5.B - averaging sensors should be long enough for four passes minimum, not simply specified as "915mm". They are available up to 5m length. 3.4.B - control air testing is specified but not needed?			
M-18	RHM	spec 232113	2.1.A&B - types L and K? 2.6.F is not needed. Below grade piping is not specified but should be.			
M-19	RHM	spec 232300	2.2 - several of the listed specialties are applicable only to much larger split systems, not the mini ductless split systems scheduled. Edit as appropriate to project. 3.1.A - soldered joints are usually considered inappropriate for refrigerant piping - confirm this is an acceptable application. Are flared final connections allowed? 3.3.D - most piping is exposed - consider adding / requiring drawn temper tubing orthogonal to building for exposed piping in lieu of specified annealed flex line sets. 3.4.D&F - are these applicable?			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-20	RHM	spec 233113	2.1.A and 2.2.A - static pressure class is not indicated. 2.3.B.2 - exposed duct mill phosphating should reference ASTM A2092. 2.3.D - tie rods are not required or advised for the small duct shown. 2.4.D solvent based sealant - consider deleting due to toxicity of volatile components. 2.5, 2.6, 3.5 and 3.6 - delete to avoid conflicts and instead reference appropriate spec sections. 3.9.C - is this cleanliness testing equipment available on site? 3.10 - is full cleaning of all new duct required? This may be excessive. Note NADCA 1992 (3.10.E.5) is very outdated - refer to latest edition.			
M-21	RHM	spec 233300	2.2.A.2 - refer to ASTM A2092. 2.2.D - not required. 2.4.A&B - Which are required and where? Consider adding locations required to 3.1.D. 2.4.B & D aluminum dampers are used for aluminum duct typically and may be deleted. 2.5 - control dampers are specified in section 230900; 2.10 - delete from one section or the other (prefer to leave under controls and reference only in this section). 2.6.B - confirm dynamic type are required. 2.9.C and 3.1.H.4 - pressure relief access doors are very costly and are probably not needed in duct this small due to lack of dynamic pressure surge upon damper closure. Verify if this is a true requirement prior to specifying this. Confirm other specialized accessories are required.			
M-22	RHM	spec 233423	2.2.F - How many of these accessories are needed? (add list to schedule?)			
M-23	RHM	spec 233713	General - delete unused types.			
M-24	RHM	spec 234100	Air filtration section is missing. Confirm it is not required or add to spec.			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
PLUMBING COMMENTS						
P-1	DCG	Spec/DA/Drawings	No plumbing system to review			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ELECTRICAL COMMENTS						
E-1	DJS	21 E-002	General note 5. Remove sentence "All electrical local...shall be white UNO." and make it its own note.			
E-2	DJS	21 E-002	General Note 5 states MC cable can be used for all branch circuit wiring except the homeruns. General note 9 states all raceways are surface mounted from the panelboard to the utilization devices, UNO. Is it the intent to install MC cable exposed as these notes infer?			
E-3	DJS	21 E-101	Are power and telecom outlets below countertops accessible thru the countertop? Consider moving outlets to above the countertop.			
E-4	DJS	21 E-101	The DA states that a complete lightning protection system is provided for the entire MOPH complex. There is no lightning protection system on this structure			
E-5	DJS	21 E-501	No light fixture cut sheets are included in the DA			
E-6	DJS	17 E-801	Change sheet number to 21 E-801			
E-7	DJS	17(21) E-801	This drawing is lightning protection details, but there is no lightning protection shown on the plans			
E-8	DJS	Spec 260519	Add metric wire sizes along with AWG wire sizes			
E-9	DJS	Spec 260519	Part 3 infers that MC cables can be installed exposed			
E-10	DJS	Spec 260526	Add metric wire sizes along with AWG wire sizes			
E-11	DJS	Spec 260529	Part 3.1 C. is not edited			
E-12	DJS	Spec 260533	Part 3.2 A. Delete "Comply with NECA 102 for aluminum conduits" since aluminum is not specified			
E-13	DJS	Spec 260533	Part 3.2 F. Define "for which few bends are allowed"			
E-14	DJS	Spec 260536	Confirm specification section is not required			
E-15	DJS	Spec 260553	Part 3.2 J. 1. Delete sentence restricting use of underground warning tape			
E-16	DJS	Spec 260553	Part 3.2 O. 1. a. is not edited			
E-17	DJS	Spec 260573	Part 1.5 b. 1. requires licensing in the state where Project is located, modify requirement			
E-18	DJS	Spec 262416	Part 1.2 A. 3. delete load centers from list			
E-19	DJS	Spec 262713	Confirm specification section is not required			
E-20	DJS	Spec 262726	Add metric wire sizes along with AWG wire sizes			
E-21	DJS	Spec 262726	Part 3.4 B. 1. Modify voltages for 220 volts			
E-22	DJS	Spec 265100	Part 2.8 C. delete self luminous signs			
E-23	DJS	Spec 265600	Confirm specification section is not required			
E-24	DJS	DA	The DA does not include any voltage drop calculations, short circuit calculations nor lighting calculations			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
COMMUNICATIONS COMMENTS						
C-1	JLB	DA	The telecommunications DA is one paragraph which has been used for all buildings reviewed. It is not specific to any one building. What is said in the DA regarding telecommunications appears to be true with the exception of protectors for cabling. No specification and or drawing detail contained any information regarding protectors. Protectors will need to be provided and should be specified.			
C-2	JLB	General Reference	No Telecommunications site drawings and/or specifications were provided for this review.			
C-3	JLB	21 E-001	Telecommunications Symbols: The first symbols on this page indicates an arrow with a tag that indicates the corresponding telecommunications room that the conduit is associated with. This symbol is not used on any of the other drawings.			
C-4	JLB	21 E-001	Telecommunications Symbols: None of the outlet symbols give quantities of cables therefore these outlet symbols should be identified on drawing 1 E-802 next to the corresponding "typical port outlet." Without this information the correct cable counts for material quantities and pathway fills cannot be determined.			
C-5	JLB	21 E-001	Telecommunications Symbols: A solid triangle symbol represents a telephone outlet according to the symbol definition. If this is correct then the mounting height should be reviewed as telephone outlets are normally mounted at 1219mm AFF per code.			
C-6	JLB	21 E-001	Telecommunications Symbols: An encircled JT symbolizes a surface mounted J/Box for tele/data. It is not clear whether or not this is intended to be an empty pathway or if this symbol represents a tele/data outlet. If this symbol is intended to represent a tele/data outlet then quantities or outlet type needs to be identified along with the encircled JT symbol.			
C-7	JLB	21 E-001	Telecommunications Symbols: The symbol for TGB is not indicated on any other drawings. This symbol should appear in the telecommunications rooms.			
C-8	JLB	21 E-001	Telecommunications Symbols: The ladder cable tray size indicated on this drawing is in conflict with the size specified in Div 27 10 00.			
C-9	JLB	21 E-001	Indicate location of communications rack/cabinet.			
C-10	JLB	21 E-101	Consider moving Telecommunications outlets out from under windows in order to simplify construction. Ex grid D-2.			
C-11	JLB	21 E-101	Consider offsetting Communication rack and Electrical panel to ensure that code required working clearances are met.			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
C-12	JLB	21 E-101	Add note to this drawing indicating that conduits for communications outlets are to be home run to the telecommunications room if cable tray is not intended to be used.			
C-13	JLB	Div 27 05 28	2.6 J: Device box size in conflict with size indicated on drawing E-802			
C-14	JLB	Div 27 05 28	3.2-I coordinate this section with notes on the drawings referring to embedding conduits in the slab. Make sure that they don't contradict each other.			
C-15	JLB	Div 27 05 28	Consolidate 3.2-F into 3.2-S as F leads you to believe that only two 90 degree bends are allowed.			
C-16	JLB	Div 27 05 36	2.6 A: Select testing standards			
C-17	JLB	Div 27 05 36	Remove 3.1 K and J: single rail cable trays are not being used nor are buss assemblies.			
C-18	JLB	Div 27 05 36	3.5 A Select or remove bracketed selection.			
C-19	JLB	Div 27 10 00	2.2 A Coordinate plywood back board size on drawings with this spec. Drawings say 21mm and specs indicate 19mm			
C-20	JLB	Div 27 10 00	2.2 A Section 061000 Rough carpentry is not listed with the table of contents for this project. Change spec reference or provide 061000			
C-21	JLB	Div 27 10 00	2.5 B 2: coordinate TGB size indicated on drawings with the one specified here.			
C-22	JLB	Div 27 13 00	1.2 A Remove pathways in its entirety from this spec. Include any pertinent information into Div 27 05 28 communications pathway spec.			
C-23	JLB	Div 27 13 00	2.2. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-24	JLB	Div 27 13 00	2.1 D coordinate outlet box size with drawings and other specs as there are different sizes shown on each.			
C-25	JLB	Div 27 13 00	Consolidate back boards into Div 27 11 00. Its not recommended to specify the same thing in multiple locations.			
C-26	JLB	Div 27 13 00	2.3 B Remove the brackets or delete the selection for overall jacket.			
C-27	JLB	Div 27 13 00	There is no specification for fiber optical cabling. Only installation requirements. Review design and determine if and where Fiber Optical cabling will be necessary.			
C-28	JLB	Div 27 15 00	1.2 A Remove Pathways from this spec. Pathways are outlined in Div 27 05 28.			
C-29	JLB	Div 27 15 00	2.3. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-30	JLB	Div 27 15 00	2.5 B: Remove "formed into 25-pair, binder groups" This is not a characteristic of four pair cabling.			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
FIRE ALARM COMMENTS						
FA-1	DJS	Spec/DA/Drawings	There is no fire alarm system to review			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
STRUCTURAL COMMENTS						
S-1	RB	21 S-001	In the Structural Abbreviations, AISC should read "Construction" instead of "Contractors".			
S-2	RB	21 S-002	Cast-in place Concrete, note 27, the reinforcing clearance for "concrete cast against and permanently exposed to earth" should be 75mm per ACI(M).			
S-3	RB	21 S-002	Steel Deck note 3; The roof deck appears to be 3"x22 gage, Type N deck. Please verify that the minimum section properties (S & I) are correct. They appear too low.			
S-4	RB	21 S-101	Note 2 - revise to "compacted granular base".			
S-5	RB	21 S-101	Note 5 - How does the step footing transition from a thickened slab at the interior wall to a strip footing with CMU stem wall at the exterior wall? Clarify the detail.			
S-6	RB	21 S-101	At column lines B3 and C3, verify the top of footing depth noted. (-0.300m) will not provide sufficient depth for frost.			
S-7	RB	21 S-101	At column A3, Section 10B/S502 does not apply. There is no slab-on-grade at this location. Should there be a 200mm shelf for the stone veneer? Clarify detail. Coordinate with civil for exterior pavement.			
S-8	RB	21 S-101	Along column lines A and B, Section 5/S503 does not apply. There is no slab-on-grade at this location. Clarify detail.			
S-9	RB	21 S-102	At the roof hatch, coordinate the location and dimensions with Arch Dwg A-102.			
S-10	RB	21 S-102	Along column line D, coordinate section numbers. 8 is at a window and 9 is at a wall.			
S-11	RB	21 S-103	Additional embedment plates are required at 2010 west of grid 3. See Section 3/S-531.			
S-12	RB	21 S-501	At Detail 3, If open stirrups and crossties are used in lieu of closed ties - provide note "Spandrels - Place 90 deg end of crosstie hook on slab-confined side. Interior - Alternate 90 deg ends of consecutive crossties."			
S-13	RB	21 S-502	Detail 8/S502 - indicate a 90 deg hook for wall vertical steel to develop into the SOG.			

Design Review
CAMPUS ACCESS CONTROL – BUILDING 21
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
S-14	RB	21 S-503	At section 1, the designations "wall/column" and "stem wall/column" imply that a pipe could run thru the column, above the footing. This should not be permitted. Please clarify that the pipe runs thru the wall and not the column.			
S-15	RB	21 S-512	At Detail 1, Note 1 should read "beam sections and schedule".			
S-16	RB	21 S-512	What happens to the ends of the concrete beams at the CMU piers? Do the beams extend thru the piers and the piers continue up, above the roof slab? If not, how do the beam top and bottom bars extend into CMU piers? Provide details to clarify,			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

<u>Excel Worksheet</u>		
<u>Name</u>	<u>Description</u>	<u>Printed Page Number</u>
Index Sheet	Excel Workbook Index	1
Architectural	Architectural Drawing Comments	2-6
Mechanical	Mechanical Drawing Comments	7-11
Plumbing	Plumbing Comments	12
Electrical	Electrical Drawing Comments	13-14
Communications	Communications Comments	15-17
Fire Alarm	Fire Alarm Comments	18
Structural	Structural Drawing Comments	19-20

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ARCHITECTURAL DRAWINGS						
A-1	KCB	05 52 13 and 05 73 00	Both of these spec sections have perforated metal in them and they call for 2 different patterns. Are they both needed? If so make sure to call out on the drawings which one is used where.			
A-2	KCB	Spec 07 21 00	Is there any foam plastic insulation that is not part of the EIFS system? If not remove from this spec section as the EIFS insulation is in the EIFS spec.			
A-3	KCB	Spec 07 41 13	Under performance requirements the metal soffit panels are not listed. Coordinate with the structural engineer to see what loads the soffits will need to resist and make sure they are listed in this specification.			
A-4	KCB	Spec 07 41 13	Make sure roof load requirements match the structural notes, it appears you are calling for different snow load requirements (check others too).			
A-5	KCB	Spec 07 41 13 and 07 42 13	There are 2 different levels of galvanization required under miscellaneous metal framing for these 2 spec sections. Shouldn't they be the same? Which one is more readily available in-country?			
A-6	KCB	Specs 07 42 13 and 08 90 00	Which of these is used where? - it is not clear.			
A-7	KCB	Spec 08 41 13	Paragraph 2.6, L. The maximum height listed 13mm is technically higher than 1/2" (ADA) and it differs from what is listed in 08 71 11 (12.7mm).			
A-8	KCB	Spec 08 80 00	Fire rated glazing is included in this specification however based on the drawings it does not appear there is a need for any in Phase 1. Is it needed for Phase 2?			
A-9	KCB	Spec 08 80 00	Where are glass types called out on the drawings? What is the intent of including delegated design since specific design criteria has not been provided?			
A-10	KCB	Spec 09 23 00	This appears to only apply to this building and I do not see any requirement for STC ratings. The partitions requiring fire ratings are getting the rating for the CMU so the reference to fire rated partitions in this spec do not seem to be needed. The plaster is only going over CMU so there is also no need for lath.			
A-11	KCB	Spec 09 30 00	The nomenclature for tile types doesn't match the drawings. The drawings do not have dashes between the letters and the numbers.			
A-12	KCB	09 63 40	The nomenclature for tile types doesn't match the drawings. The drawings do not have dashes between the letters and the numbers.			
A-13	KCB	Spec 09 93 00	Where is this used? I do not see it called out on the drawings as either a wall finish, floor finish or exterior finish. If it is SC on the Finish Schedule make that clear.			
A-14	KCB	Spec 10 21 13	You have 2 specs with 2 different materials but neither one is called out on the drawings.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

A-15	KCB	Spec 10 44 13 and 10 44 16	Are all fire extinguishers in cabinets or are some bracket mounted? If they are in cabinets add detail to the drawing set showing how that works in the typical wall.			
A-16	KCB	Spec 10 44 13	Is there any need for 2 hour cabinets?			
A-17	KCB	Spec 10 82 13	Is this specification for building mounted sunshades? I do not see any sunshades on the architectural drawings.			
A-18	KCB	Drawings	Throughout the set there is inconsistent text size, sheet to sheet and detail to detail.			
A-19	KCB	LS-001	In the OPENING PROTECTIVES paragraph be clear on the types of rated partitions. Corridors are 1 hour fire partitions, stairs exit enclosures are 1 hour fire barriers that require 60 minute doors			
A-20	KCB	LS-001	Add a paragraph about accessibility.			
A-21	KCB	LS-101	The LEGEND needs to distinguish between 1 hour fire partitions and 1 hour fire barriers.			
A-22	KCB	LS-102	The LEGEND needs to distinguish between 1 hour fire partitions and 1 hour fire barriers.			
A-23	KCB	LS-102	At the egress information boxes above the stairs, it could be confusing that the title in the box doesn't match the room label for each stair. Consider Stair A and B maybe.			
A-24	KCB	A-001	There are abbreviations used on the drawings that are not coordinated with the architectural abbreviations list including but not limited to the following: OH (used as opposite hand), EL, TLTS, M, MM, NO, EXPAN, PART'N			
A-25	KCB	A-101	The enlarged plan call outs for the Vestibule 003 and for Seminar/ Conference 010 are incorrect.			
A-26	KCB	A-101	The partition type tags are missing for the walls at Stairs 3 and 3.			
A-27	KCB	A-101	The Plumbing drawings are using different room numbers that shown on these Architectural floor plans.			
A-28	KCB	A-102	The partition type tags are missing for the walls at Stairs 3 and 3.			
A-29	KCB	A-104	Refer to drawing P-701, it is not totally clear but it appears there may be 3 vents through the roof - verify.			
A-30	KCB	A-104	Consider showing air terminals on this roof plan for coordination purposes.			
A-31	KCB	A-111	Consider showing all items that will be mounted on or hung from the ceiling on your reflected ceiling plan. These can be excellent coordination drawings to find conflicts between all trades.			
A-32	KCB	A-112	Consider showing all items that will be mounted on or hung from the ceiling on your reflected ceiling plan. These can be excellent coordination drawings to find conflicts between all trades.			
A-33	KCB	A-112	The lights at Women's Toilets 115 are not dimensioned.			
A-34	KCB	A-201	Draw and call out wall hydrants near column line F and B on the east elevation.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

A-35	KCB	A-201	Elevation 2 - Have the connections between the galvanized channels around the corrugated metal panels been designed? They are not drawn on the structural drawings.			
A-36	KCB	A-202	Draw and call out wall hydrants near column line F and between col lines B and B.7 on the west elevation.			
A-37	KCB	A-202	Elevation 1 and 2 - Have the connections between the galvanized channels around the corrugated metal panels been designed? They are not drawn on the structural drawings.			
A-38	KCB	A-202	There is a structural detail 3/S-531 which is keyed in between col lines D and E that has a note that says "LOUVER OPENING (SEE ARCH)". This drawing is showing all those areas as corrugated panels. Who is correct?			
A-39	KCB	A-301	Refer to drawings E-103 - There is a note that says ceiling fans are mounted at 900MM below the ceiling slab, based on the TOS and slab thickness this put the fans at 2050MM AFF, this seems low. Consider having electrical raise them up.			
A-40	KCB	A-301	Building Section 1 - planter note says DESIGNED BY OTHERS, the planter note on A-302 says DECIDED BY OTHERS. Which one is correct?			
A-41	KCB	A-301	Building Section 1 - A continuous louver this large, is that possible or will this need to be broken up?			
A-42	KCB	A-351	Tag datums on wall sections, typ.			
A-43	KCB	A-351	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-44	KCB	A-351	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-45	KCB	A-351	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-46	KCB	A-352	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-47	KCB	A-353	Consider using wipe out where detail tags overlap drawing information.			
A-48	KCB	A-353	Where are the metal grating panels specified?			
A-49	KCB	A-353	Wall Section 3 - There is missing gravel hatch near the footing. Is there supposed to be a perimeter drain there?			
A-50	KCB	A-354	At the notes pointing to the roof camber there is information that needs to be filled in.			
A-51	KCB	A-354	Wall Section 3 - is the steel channel that is acting as a gutter sloped for positive drainage?			
A-52	KCB	A-401	Draw and label the Area of Refuge in Stair 3.			
A-53	KCB	A-401	Tag landing elevations, typ.			
A-54	KCB	A-401	The concrete beams are missing from these sections, coordinate with structural drawing S-541. There should also be a concrete stub wall drawn in section 9.			
A-55	KCB	A-410	Dimension the location of the water closets and sinks, plumbing does not.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

A-56	KCB	A-410	Who is showing how the floor slab slopes to the floor drains? Plumbing detail 3/P-501 refers back to arch drawings for "exact requirements".			
A-57	KCB	A-410	Enlarged Toilet Elevations - Key in toilet accessories as labeled on 1/A-410.			
A-58	KCB	A-421	Enlarged plan 1 the callouts for the Men's and Women's finish plans are incorrect, should be A-443.			
A-59	KCB	A-421	Consider using wipe out where detail tags overlap drawing information.			
A-60	KCB	A-421	What does hatch mean? Consider adding a LEGEND.			
A-61	KCB	A-422	Enlarged plan title says Level One instead of First Level.			
A-62	KCB	A-422	Enlarged plan 1 the callouts for the Men's and Women's finish plans are incorrect, should be A-443.			
A-63	KCB	A-430	All the Interior Elevation titles are referring to A-210.			
A-64	KCB	A-431	All the Interior Elevation titles are referring to A-211.			
A-65	KCB	A-431	Check the LTSCALE as the lines in the window are not showing up dashed.			
A-66	KCB	A-431	What information are these conveying? Can other trades information be added so these can be used for coordination?			
A-67	KCB	A-432	What information are these conveying? Can other trades information be added so these can be used for coordination?			
A-68	KCB	A-440	Detail 1- there is an extra leader at the plaster finish note.			
A-69	KCB	A-440	Detail 9 - how is piece of stone that returns held in place?			
A-70	KCB	A-443	Show floor drains and toilet partitions.			
A-71	KCB	A-501	There is missing insulation hatch on plan details.			
A-72	KCB	A-501	Where are these plan details keyed in?			
A-73	KCB	A-501	The word dimension is spelled wrong in the asterisked note.			
A-74	KCB	A-502	Hatch cut through steel for clarity.			
A-75	KCB	A-511	Hatch cut through steel for clarity.			
A-76	KCB	A-511	Details 3 and 4 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-77	KCB	A-511	Detail 4 - show insulation continuing to the cut line.			
A-78	KCB	A-511	Detail 4 - fix leader that points to the C200 channel it is pointing to the insulation.			
A-79	KCB	A-512	Hatch cut through steel for clarity.			
A-80	KCB	A-512	Details 2 and 4 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-81	KCB	A-512	Hatch cut through steel for clarity.			
A-82	KCB	A-513	Detail 1 - insulation thickness at wall appears to be the wrong thickness.			
A-83	KCB	A-512	Hatch cut through steel for clarity.			
A-84	KCB	A-515	Detail 5 - The wall to roof hatch opening shown in this detail does not match what is shown in plan. Can this ladder work if it is mounted so far off the wall?			
A-85	KCB	A-515	Consider adding a locking gate at the bottom of the ladder to prevent unwanted roof access since this is in a public space.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

A-86	KCB	A-515	Detail 7 - Where is the steel grating specified? I do not see it in 05 50 00.			
A-87	KCB	A-515	The note at the insulation on this sheet does not match the insulation note on the wall sections.			
A-88	KCB	A-602	Consider adding head and jamb details at stone panels.			
A-89	KCB	A-602	At doors 008, 009, 108, and 109 - type is listed as E but there is no E door type. Fire ratings are listed as 20 minutes but they should be 60 minutes per table 715.4 (doors in fire barriers specifically exit enclosures).			
A-90	KCB	A-603	Coordinate with MEP to get thru-wall fire stop penetration details shown in the set with UL Design #'s.			
A-91	KCB	A-603	Refer to S-513 and S-514 - The structural drawings show control joints in concrete and where CMU meets concrete but they do not appear to address control joints within CMU walls. A detail and /or note need to be added somewhere.			
A-92	KCB	A-604	Finish schedule - what does SC stand for (sealed concrete, stained concrete)? It is not on the materials index.			
A-93	KCB	A-604	Refer to S-101, S-102 and S-103 - Plan Notes: says refer to arch drawings for slab finish requirements. I do not see where that arch drawings addresses this especially if this is referring to float vs. trowel vs. broom finish, coordinate. Spec section 07 18 00 (attic waterproofing) does list specific requirements.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
MECHANICAL COMMENTS						
M-1	CSR	M-001	Add to MECHANICAL ABBREVIATIONS: DU - DOOR UNDERCUT			
M-2	CSR	M-101	For clarity, indicate or note runout locations; supply and return down in exterior corners and risers up to first level units on the inboard take-offs.			
M-3	CSR	M-101	Consider reverse return piping layout since the floor plan would require minimum extra pipe to do so. This would reduce overall pump head requirements, simplify balancing, and minimize problems with getting flow to the end units.			
M-4	CSR	M-101	In MECH 005, indicate that pipe rises and runs in space above the ceiling.			
M-5	RHM	M-101	In Mech 005 and Tel/Elect 006, convectors are offset from walls. Coordinate with base plan.			
M-6	RHM	1 M-101	In Mech 005, tag size of interior main HWS/HWR.			
M-7	CSR	M-101	Show wall thermostats to control two-way fin tube radiation valves.			
M-8	CSR	M-101	Verify that natural ventilation is acceptable to meet minimum outside air rates in accordance with the 2006 International Mechanical Code.			
M-9	CSR	M-101	Add fin tube radiation in MEN'S TOILET 025 and WOMEN'S TOILET 015.			
M-10	CSR	M-101	Turn on drawing layer for room numbers.			
M-11	CSR	M-101	Consider adding fin tube radiation to CORRIDOR 023 and PRINT/COPY AREA 018.			
M-12	RHM	1 M-101	Copiers generate toxic fumes and excess heat. File/Copy rooms 018 and 024 do not appear to meet minimum free opening area requirements for natural ventilation per IMC 402. Consider adding mechanical ventilation and area exhaust to supplement natural ventilation for these rooms.			
M-13	CSR	M-102	See Notes M-2, M-3, M-5, M-6, and M-8 above for M-101.			
M-14	CSR	M-102	Section 220529: Purge out hanger materials not wanted for this project (for example fiberglass hangers or struts?)			
M-15	CSR	M-102	Section 220719: Purge out insulation materials not wanted for this project (for example mastics or jacketing?)			
M-16	DCG	Specifications	Section 221116: Purge out piping materials not wanted for this project (for example PVC or PP piping?)			
M-17	DCG	Specifications	Section 221119: 2.3, A: Where installed? 2.4, A: Where installed? 2.5: Select which balance valve for this project. 2.6, A: Where installed?			
M-18	DCG	Specifications	Section 221316: Purge out piping materials not wanted for this project (for example ABS piping?)			
M-19	DCG	Specifications	Section 22132: 2.2: Select which type of oil interceptor you want for this project			
M-20	CSR	M-501	Hot Water Fin Tube Radiator Schedule- Add a column for "ENCLOSURE HEIGHT" and a value of 200mm (8") for both FT-1 and FT-2.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

M-21	CSR	M-501	Hot Water Fin Tube Radiator Schedule- Consider upsizing flow to 0.5 gpm (0.032 L/S). Laminar flow will develop below this point, significantly decreasing heat capacity. Pipe sizes may have to be adjusted.			
M-22	CSR	M-501	Heat Pump Schedule: Add "Note 4" to Remarks column.			
M-23	CSR	M-502	Detail 2- Add a manual, high capacity air vent at the top of the system, somewhere above a First Level unit, in addition to the incoming automatic air vent.			
M-24	CSR	M-502	Detail 4- Show thermostat symbol for control of modulating valve according to Sequence of Operation.			
M-25	CSR	M-502	Add Piping Hanging Detail.			
M-26	RHM	Mech details	Provide detail for refrigerant piping wall penetrations.			
M-27	RHM	Design Analysis Appendix D.1. Cut Sheets	Provide cut sheets for registers and grilles.			
M-28	RHM	Design Analysis Appendix D.1. Cut Sheets	Highlight mechanical cut sheets with specific selections similar to plumbing cut sheets.			
M-29	CSR	BOQ	Item 20: FT-2 quantity is 9.			
M-30	CSR	TABLE OF CONTENTS	Include section 23 07 13 - Duct Insulation in Phase I manual.			
M-31	CSR	Specification 23 05 53 - Identification for HVAC Piping and Equipment.	Provide specification for identification of buried pipe.			
M-32	CSR	Specification 23 07 19 - HVAC Piping Insulation	Provide specification for insulation of underground piping for HWS/HWR pipe mains. Provide provisions for pipe movement at expansion loops.			
M-33	RHM	spec 230513	Clarify motor requirements for 3 phase VSD pump motors between 2.4.B.2 or .3. Consider including overheat thermostats, one per phase.			
M-34	RHM	spec 230516	Specify type of thermal expansion compensators required and edit out remainder. Preferred system includes flexible hose loops to avoid pressure thrust load calculations for anchors.			
M-35	RHM	spec 230517	Clarify if sleeve seal fittings are required at refrigerant piping penetrations of exterior walls. If not, define this condition in spec and on drawings.			
M-36	RHM	spec 230518	Paragraph 3.1.B.1: clarify which escutons are to be used on this project and where, edit out the unused remainder.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

M-37	RHM	spec 230519	Where are venturi flowmeters used? Refer to location schedule in 3.1.R: 1) Define hydronic zone - this is either every FTR control valve which defines the heating zones, one set per building as shown on details, or it could be there is only one zone. (hydronic reset schedule?) 3) There are no "air handling units" - are thermometers required at all duct coils? 4) There is not thermal storage tank - clarify. 5) Are outside, return, supply, and mixed air ducts applicable to project?			
M-38	RHM	spec 230523	2.2 - three piece ball valves may be excessive for this service. 2.3 - Iron body ball valves may be excessive for this service. 2.5 - High performance butterfly valves are excessive for this service. 2.12 - Chainwheels appear to not be needed.			
M-39	RHM	spec 230529	Edit to remove hangars and supports not needed in this project (especially application schedules in 3.6). Paragraph 3.1.M: Pipe slopes are not indicated on drawings - are they in spec?			
M-40	RHM	spec 230548	Confirm that an Ip of 1.5 required, as this raises costs for restraint system substantially. Equipment bases specified in 2.2 do not appear on drawings; if they are required, show on drawings and include in Part 3 execution. 2.3.D - cables should be specified as pre-stretched cables as part of UL listed or OSHPOD approved assemblies (not allowing installer to assemble from loose miscellaneous components)? 3.7.A - Are air mounted systems being used? If not, delete.			
M-41	RHM	spec 230553	Include below grade pipe locator tape. 2.4 - Consider stencils or self adhesive labels in lieu of engraved labels for duct.			
M-42	RHM	spec 230593	Paragraph 1.5.A: NEBB certification (per 1.3.B) is equal to these. AABC and/or TABB certified firms may not be available locally. Consider the Afghan equal to these agencies by including a phrase similar to "or the local equivalent". Include details on setting up variable speed drive pumping systems that include the design frequency and wide open or barely non-overloading triple duty valve settings. 3.12 and 3.15.F are in conflict, as are a few other specific equipment testing requirements - clarify.			
M-43	RHM	specs 230713, 230716, and 230719	These three insulation specifications include insulation types and procedures in excess of that required for this project. The specifications should be edited by removing superfluous content. The piping insulation specification needs to include an appropriate below grade insulation system.			
M-44	RHM	spec 230900	2.5.B - averaging sensors should be long enough for four passes minimum, not simply specified as "915mm". They are available up to 5m length. 3.4.B - control air testing is specified but not needed?			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

M-44	RHM	spec 231113	Drawing detail calls for duplex strainer; paragraph 2.3.B specifies Y pattern - coordinate. Paragraph 2.11: No fuel maintenance system is shown on drawings - this may be needed and appropriate - show it on drawings if this is expected. 2.13 and 2.14 - similar concern - provide details on drawings to show where and how these are to be used. 3.8.F - who buys the oil? 3.21 - is flared copper not allowed at burner?			
M-45	RHM	spec 232113	2.1.A&B - types L and K? 2.6.F is not needed. Below grade piping is not specified but should be.			
M-46	RHM	spec 232123	2.2.C.1 - replaceable wear rings are not standard with most of these manufacturers. Are they needed for this simple hydronic heating service? 2.2.C.4 - mechanical seals may not be readily available as replacement parts, and the seal specified is not very durable under abrasive / aggressive water conditions. Consider specifying SiC/SiC seals with a spare seal delivered loose for each pump. 3.3 - factory authorized alignment needed for series 1510 pump may be difficult to obtain in Kabul and would not be needed if close coupled series 1531 or inline series 80 were specified and scheduled. 3.4.A - this is a hydronic not a steam system - edit to refer to section 232113. 3.4.E&F - suction diffusers and triple duty valves are specified - describe their use here as appropriate for base mounted pumps. 3.4.I - If condensate pumps are not used, delete this clause.			
M-47	RHM	spec 232300	2.2 - several of the listed specialties are applicable only to much larger split systems, not the mini ductless split systems scheduled. Edit as appropriate to project. 3.1.A - soldered joints are usually considered inappropriate for refrigerant piping - confirm this is an acceptable application. Are flared final connections allowed? 3.3.D - most piping is exposed - consider adding / requiring drawn temper tubing orthogonal to building for exposed piping in lieu of specified annealed flex line sets. 3.4.D&F - are these applicable?			
M-48	RHM	spec 233113	2.1.A and 2.2.A - static pressure class is not indicated. 2.3.B.2 - exposed duct mill phosphating should reference ASTM A2092. 2.3.D - tie rods are not required or advised for the small duct shown. 2.4.D solvent based sealant - consider deleting due to toxicity of volatile components. 2.5, 2.6, 3.5 and 3.6 - delete to avoid conflicts and instead reference appropriate spec sections. 3.9.C - is this cleanliness testing equipment available on site? 3.10 - is full cleaning of all new duct required? This may be excessive. Note NADCA 1992 (3.10.E.5) is very outdated - refer to latest edition.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

M-49	RHM	spec 233300	2.2.A.2 - refer to ASTM A2092. 2.2.D - not required. 2.4.A&.B - Which are required and where? Consider adding locations required to 3.1.D. 2.4.B & D aluminum dampers are used for aluminum duct typically and may be deleted. 2.5 - control dampers are specified in section 230900;2.10 - delete from one section or the other (prefer to leave under controls and reference only in this section). 2.6.B - confirm dynamic type are required. 2.9.C and 3.1.H.4 - pressure relief access doors are very costly and are probably not needed in duct this small due to lack of dynamic pressure surge upon damper closure. Verify if this is a true requirement prior to specifying this. Confirm other specialized accessories are required.			
M-50	RHM	spec 233423	2.2.F - How many of these accessories are needed? (add list to schedule?)			
M-51	RHM	spec 233713	General - delete unused types.			
M-52	RHM	spec 234100	Air filtration section is missing. Confirm it is not required or add to spec.			
M-53	RHM	spec 235100	2.1.E - type 304 s.s has only moderate resistance to corrosion from the products of fuel oil combustion, especially if the fuel has moderate to high sulphur content. Consider specifying 316L or AL 29-4C liner, and allowing aluminized steel exterior breeching / chimney. 2.2.A, B, and C - clarify to be project specific.			
M-54	RHM	spec 235201	2.1.A.1 - this appears to be a flat spec. Is this permissible? 2.3.H - specifies boilers however there is a boiler spec section 235239 which has more detail. It appears both specifications are not needed - consider deleting one of them and/or referring to the other to avoid duplication and discrepancies. 2.3.M - Turbine type flow meters require very clean water to avoid fouling and are not recommended for a central heating system of this type as it will be difficult to clear well enough for durable flow meter performance. Consider venturi meters or if the project finances can support vortex or mag meters, use those to achieve the (initial) accuracy of a turbine.			
M-55	RHM	spec 235239	2.2.B - the specified product is a three pass boiler, the cut sheets show a two pass boiler, and the drawings schedule a four pass boiler. Please coordinate. 2.4.J - The specified tankless heater is not shown on the drawings connected to the DHW system. Will it be used? 2.5.C.2 - consider the added safety of a second <i>manual</i> reset low water cutoff.			
M-56	RHM	spec 237430	Are these needed for phase two?			
M-57	RHM	spec 238126	2.2.A.6 - provide for auxiliary condensate control system in accordance with IMC 3.07.2.3			
M-58	RHM	spec 238220	Are these needed for phase two?			
M-59	RHM	spec 238239	2.1.I - there appear to be no hot water unit heaters on project. Delete clause if not needed. Add electric wall mounted unit heaters.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
PLUMBING COMMENTS						
P-1	DCG	Plumbing Calculations	Add the requirement for recirculation pump in Design Analysis (DA)			
P-2	DCG	Plumbing Calculations	Provide justification for recirculation pump sizing is based on 1 gpm for every 20 fixture units. Where does this sizing method come from?			
P-3	DCG	1 P-101	Provide pipe size and identification between the detail bubbles.			
P-4	DCG	1 P-401	Detail 1: Identify (ID) riser pipe by door at bottom right corner of Mech 007.			
P-5	DCG	1 P-401	Detail 2: ID pipe type and sizes for mains			
P-6	DCG	1 P-401	Detail 3: ID pipe type and sizes for mains			
P-7	DCG	1 P-401	Detail 4: Is that column located within the plumbing chase? Confirm piping will fit within chase.			
P-8	DCG	1 P-401	Detail 5: Is that column located within the plumbing chase? Confirm piping will fit within chase.			
P-9	DCG	1 P-701	Sanitary Riser: Top left on first floor, ID 15 CW from trap primer on 80 FD-2			
P-10	DCG	1 P-701	Water Riser: Amend water heater detail to match water heating detail on sheet 1 P-501			
P-11	DCG	1 P-501	Detail 1: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-12	DCG	1 P-501	Detail 3: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-13	DCG	1 P-501	Detail 5: Add thermometer at outlet of mixing valve? On hot water return line. Add unions at connection to water heater. Add union and shutoff valve on line to expansion tank.			
P-14	DCG	Specifications	Section 220523: Purge out valves not wanted for this project (for example: Do you want gate or globe valves?)			
P-15	DCG	Specifications	Section 220529: Purge out hanger materials not wanted for this project (for example fiberglass hangers or struts?)			
P-16	DCG	Specifications	Section 220719: Purge out insulation materials not wanted for this project (for example mastics or jacketing?)			
P-17	DCG	Specifications	Section 221116: Purge out piping materials not wanted for this project (for example PVC or PP piping?)			
P-18	DCG	Specifications	Section 221119: 2.3, A: Where installed? 2.4, A: Where installed? 2.5: Select which balance valve for this project. 2.6, A: Where installed?			
P-19	DCG	Specifications	Section 221316: Purge out piping materials not wanted for this project (for example ABS piping?)			
P-20	DCG	Specifications	Section 22132: 2.2: Select which type of oil interceptor you want for this project			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ELECTRICAL COMMENTS						
E-1	DJS	1 E-001	Add "ECB" and the symbol for "ECB" to symbols and abbreviations			
E-2	DJS	1 E-002	General note 5. Remove sentence "All electrical local...shall be white UNO." and make it its own note.			
E-3	DJS	1 E-002	General Note 5 states MC cable can be used for all branch circuit wiring except the homeruns. General note 9 states all raceways are surface mounted from the panelboard to the utilization devices, UNO. Is it the intent to install MC cable exposed as these notes infer?			
E-4	DJS	1 E-101	Consider removing exit signs from doors leaving Seminar/Conf. room into Lobby since doors swing into room			
E-5	DJS	1 E-101	Consider removing exit sign from door leaving Courtyard into Lobby since door swings into the Courtyard			
E-6	DJS	1 E-101	Consider removing exit sign from door leaving corridor into Lobby since door swings into corridor			
E-7	DJS	1 E-103	Panel G-PP1 is mounted over window			
E-8	DJS	1 E-103	Notes on left side of sheet for underground conduit state to provide pull strings which is in conflict with Partial One Line Diagram - Building 1 on drawing 1 E-501			
E-9	DJS	1 E-103	Provide power connection for ETP-1 in the Mech. Rm.			
E-10	DJS	1 E-105	Consider adding a light switch and lighting for the attic			
E-11	DJS	1 E-106	Verify that the air terminal spacing at the perimeter should be a maximum of 7.6 meters			
E-12	DJS	1 E-106	Verify only one air terminal is required for the center of the roof			
E-13	DJS	1 E-106	Verify that the spacing between down conductors does not exceed 30 meters			
E-14	DJS	1 E-501	Panelboard schedule 1-PP1 is mis-labeled as 1-PP2			
E-15	DJS	1 E-501	Partial One Line Diagram - Building 1, add overcurrent protection for normal feeder to ATS-B01			
E-16	DJS	1 E-501	Partial One Line Diagram - Building 1, label ATS-B01 as a 3 pole, solid neutral or 4 pole transfer switch			
E-17	DJS	1 E-501	Partial One Line Diagram - Building 1, label common feeder size between transfer switch and trough			
E-18	DJS	1 E-501	Partial One Line Diagram - Building 1, add service disconnect switch in feeder from standby generator to conform to NEC 225.31			
E-19	DJS	1 E-502	Mechanical Equipment Connection Schedule, verify if motor controllers are required for the exhaust fans			
E-20	DJS	1 E-502	Mechanical Equipment Connection Schedule, verify if motor controllers are required for any of the motors			
E-21	DJS	1 E-502	Mechanical Equipment Connection Schedule, verify if indoor and/or outdoor units require disconnect switches, also verify enclosure ratings (NEMA 3R?)			
E-22	DJS	1 E-502	Light fixture cut sheets in the DA are not labeled, wrong cut sheets are included and not all fixtures are included			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

E-23	DJS	1 E-802	There are no system grounding/bonding details			
E-24	DJS	Spec 260519	Add metric wire sizes along with AWG wire sizes			
E-25	DJS	Spec 260519	Part 3 infers that MC cables can be installed exposed			
E-26	DJS	Spec 260526	Add metric wire sizes along with AWG wire sizes			
E-27	DJS	Spec 260529	Part 3.1 C. is not edited			
E-28	DJS	Spec 260533	Part 3.2 A. Delete "Comply with NECA 102 for aluminum conduits" since aluminum is not specified			
E-29	DJS	Spec 260533	Part 3.2 F. Define "for which few bends are allowed"			
E-30	DJS	Spec 260536	Confirm specification section is not required			
E-31	DJS	Spec 260553	Part 3.2 J. 1. Delete sentence restricting use of underground warning tape			
E-32	DJS	Spec 260553	Part 3.2 O. 1. a. is not edited			
E-33	DJS	Spec 260573	Part 1.5 b. 1. requires licensing in the state where Project is located, modify requirement			
E-34	DJS	Spec 262416	Part 1.2 A. 3. delete load centers from list			
E-35	DJS	Spec 262713	Confirm specification section is not required			
E-36	DJS	Spec 262726	Add metric wire sizes along with AWG wire sizes			
E-37	DJS	Spec 262726	Part 3.4 B. 1. Modify voltages for 220 volts			
E-38	DJS	Spec 263213	Entire spec section is not edited			
E-39	DJS	Spec 263600	Entire spec section is not edited			
E-40	DJS	Spec 265100	Part 2.8 C. delete self luminous signs			
E-41	DJS	Spec 265600	Confirm specification section is not required			
E-42	DJS	DA	The DA does not include any voltage drop calculations, short circuit calculations or lighting calculations			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
COMMUNICATIONS COMMENTS						
C-1	JLB	DA	The telecommunications DA is one paragraph which has been used for all buildings reviewed. It is not specific to any one			
C-2	JLB	General Reference	No Telecommunications site drawings and/or specifications were provided for this review.			
C-3	JLB	1 E-001	Telecommunications Symbols: The first symbols on this page indicates an arrow with a tag that indicates the corresponding telecommunications room that the conduit is associated with. This symbol is not used on any of the other drawings.			
C-4	JLB	1 E-001	Telecommunications Symbols: None of the outlet symbols give quantities of cables therefore these outlet symbols should be identified on drawing 1 E-802 next to the corresponding "typical port outlet." Without this information it correct cable counts for material quantities and pathway fills cannot be determined.			
C-5	JLB	1 E-001	Telecommunications Symbols: A solid triangle symbol represents a telephone outlet according to the symbol definition. If this is correct then the mounting height should be reviewed as telephone outlets are normally mounted at 1219mm AFF per code.			
C-6	JLB	1 E-001	Telecommunications Symbols: An encircled JT symbolizes a surface mounted J/Box for tele/data. It is not clear whether or not it intended to be an empty pathway or if this symbol represents a tele/data outlet. If this symbol is intended to represent a tele/data outlet then quantities or outlet type needs to be identified along with the encircled JT symbol.			
C-7	JLB	1 E-001	Telecommunications Symbols: The symbol for TGB is not indicated on any other drawings. This symbol should appear in the telecommunications rooms.			
C-8	JLB	1 E-001	Telecommunications Symbols: The ladder cable tray size indicated on this drawing is in conflict with the size specified in Div 27 11 00.			
C-9	JLB	1 E-001	Communications rack/ cabinet symbols should be indicated in the list as they are shown on the layout drawings			
C-10	JLB	1 T-101	No cable tray is indicated on the plan view drawings however cable tray is indicated on the E-101 and E-802. If no cable tray is intended to be used then there will be a large amount of conduits home run to the TR and the pull box. If cable tray is used coordinate with the Mechanical engineer to determine whether or not plenum cabling will be required.			
C-11	JLB	1 T-101	A solid triangle with a WP next it is shown on this drawing in the court yard. This symbol is not shown			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

C-12	JLB	1 T-101	2-78 mm conduits are shown between the telecommunications room and a pull box mounted in the file/ copier room. Review conduit requirements specified in Div 27 10 00 as it states that no more than two 90 degree bends are allowed in a conduit run. As show three 90 degree bends will be required. Pull box size should be indicated as it is not specified else ware			
C-13	JLB	1 T-101	1 S-101and 1 T-001 show that the trench takes a 90 degree turn near grid line E-1. The 90 degree turn will not accommodate the bend radius of 78mm conduits . The trench will need to be radiused as well.			
C-14	JLB	1 T-101	Review requirements for HVAC within telecommunication rooms on both the ground and first floors.			
C-15	JLB	1 T-101	Near grid B.7-3 a note indicates that 2-21mm conduits will be provided for tele/data cabling. More or larger conduits will be required in order to not exceed allowable fill ratios.			
C-16	JLB	1 T-102	The 2-78 mm conduits that run between the Telecommunications room and the office near grid B-5. may be in violation of [IBC] 1020.1.2 which states that Penetrations into and openings through an exit enclosure [stairwells] are prohibited except for required exit doors, equipment and ductwork necessary for independent pressurization, sprinkler piping, standpipes, electrical raceway for fire dept. communication systems and electrical raceway serving the exit enclosure and terminating in a steel box not exceeding 16 sq. inches.			
C-17	JLB	1 T-102	Remove CATV outlet in the Executive office near grid E-2 or provide information on the drawings, spec and DA for CATV system.			
C-18	JLB	1 T-102	Cable tray not shown on this drawing. Consider using cable tray due to the amount of conduits that will need to be terminated in the Pull box located near grid B-5.			
C-19	JLB	1 T-102	Consider changing the swing of the door into the telecommunications room to provide more usable space within the telecommunications room.			
C-20	JLB	1 E-802	Conduit sizes for telecommunications outlets need to be coordinated. Several sizes are indicated through out the design documents. Ex Typical outlet details indicate 25mm conduits. Symbols page indicates 27mm conduits. Detail 6 on E-802 indicates 20mm conduits. Div 27 05 28 indicates min 21mm conduits. (Fill ratios need to be considered as well)			
C-21	JLB	1 E-802	Detail 2: Indicates a standard 112.5mm square double gang outlet box however a single gang outlet box is depicted.			
C-22	JLB	1 E-802	Detail 6: Indicates Cat 3 cabling is used for voice. Coordinate with other details and spec's as Cat 3 cabling is not mentioned else ware.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

C-23	JLB	1 E-802	Detail 7: Indicates telecom raceway installation. Check TIA/EIA 569-A and or 569-B standards. Change in direction of tele/data cabling is not allowed within a pull box. The detail indicates that a daisy chain method of distribution will be used. If this format is to be used the feed conduits may need to be upsized to accommodate the cabling from multiple outlets.			
C-24	JLB	1 E-802	Provide detail showing the Intra building backbone cabling logical/online.			
C-25	JLB	Div 27 05 28	2.6 J: Device box size in conflict with size indicated on drawing E-802			
C-26	JLB	Div 27 05 28	3.2-I coordinate this section with notes on the drawings referring to embedding conduits in the slab. Make sure that they don't contradict each other.			
C-27	JLB	Div 27 05 28	Consolidate 3.2-F into 3.2-S as F leads you to believe that only two 90 degree bends are allowed.			
C-28	JLB	Div 27 05 36	2.6 A: Select testing standards			
C-29	JLB	Div 27 05 36	Remove 3.1 K and J: single rail cable trays are not being used nor are buss assemblies.			
C-30	JLB	Div 27 05 36	3.5 A Select or remove bracketed selection.			
C-31	JLB	Div 27 10 00	2.2 A Coordinate plywood back board size on drawings with this spec. Drawings say 21mm and specs indicate 19mm			
C-32	JLB	Div 27 10 00	2.2 A Section 061000 Rough carpentry is not listed with the table of contents for this project. Change spec reference or provide 061000			
C-33	JLB	Div 27 10 00	2.5 B 2: Coordinate TGB size indicated on drawings with the one specified here.			
C-34	JLB	Div 27 13 00	1.2 A Remove pathways in its entirety from this spec. Include any pertinent information into Div 27 05 28 communications pathway spec..			
C-35	JLB	Div 27 13 00	2.2. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-36	JLB	Div 27 13 00	2.1 D Coordinate outlet box size with drawings and other specs as there are different sizes shown on each.			
C-37	JLB	Div 27 13 00	Consolidate back boards into Div 27 11 00. Its not recommended to specify the same thing in multiple locations.			
C-38	JLB	Div 27 13 00	2.3 B Remove the brackets or delete the selection for overall jacket.			
C-39	JLB	Div 27 13 00	There is no specification for fiber optical cabling. Only installation requirements. Review design and determine if and where Fiber Optical cabling will be necessary.			
C-40	JLB	Div 27 15 00	1.2 A Remove Pathways from this spec. Pathways are outlined in Div 27 05 28.			
C-41	JLB	Div 27 15 00	2.3. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-42	JLB	Div 27 15 00	2.5 B: Remove "formed into 25-pair, binder groups" This is not a characteristic of four pair cabling.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
FIRE ALARM COMMENTS						
FA-1	DJS	DA	The DA states that manual fire alarm systems will only be provided in Buildings 2, 3, 4, 5,7, 12 and 19. This building includes a fire alarm system. Resolve conflict.			
FA-2	DJS	Specifications	There are no fire alarm system specifications			
FA-3	DJS	1 FA-001	Consider adding a generic fire alarm system wiring diagram			
FA-4	DJS	1 FA-101	In Lobby 002 the horn/strobes at the ends of the Lobby are more than 4.57 meters from the endwall.			
FA-5	DJS	1 FA-101	In Lobby 002, confirm the horn/strobe on the north wall is required			
FA-6	DJS	1 FA-101	In the corridor around the perimeter of the Courtyard, the horn/strobes at the ends of the corridor are more than 4.57 meters from the entrance			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
STRUCTURAL COMMENTS						
S-1	RB	S-001	In the Structural Abbreviations, AISC should read "Construction" instead of "Contractors".			
S-2	RB	S-001	In the General Notes under "B Design Loads", verify that the building should be Occupancy Category III. Why not Category II, like buildings 2 & 3.			
S-3	RB	S-002	Cast-in place Concrete, note 27, the reinforcing clearance for "concrete cast against and permanently exposed to earth" should be 75mm per ACI(M).			
S-4	RB	S-002	Steel Deck note 3; The roof deck appears to be 3"x22 gage, Type N deck. Please verify that the minimum section properties (S & I) are correct. They appear too low.			
S-5	RB	S-101	Are the column footings centered on the Grid Lines? Some columns are offset from the grid lines. Please add notes or dimensions to clarify the locations of the footings under irregular columns.			
S-6	RB	S-101	A note near grid lines D5, calls for 150 concrete curbs around the "eastern style waterclosets". Coordinate with the architectural and plumbing drawings. They don't show any curbs around the floor openings.			
S-7	RB	S-101	The floor trench for electrical conduit that runs south of grid D, to the file/copy room is not shown on Electrical dwg E-103. Please coordinate the extent of the trench.			
S-8	RB	S-102	At stair 2 and stair 3, there should be a window in the exterior wall along grid 1 and 2. Coordinate with Arch drawings.			
S-9	RB	S-102	The Stand Alone Canopy on the west side of the bldg is noted "to be provided in a separate drawing package". Coordinate with Architectural dwg's. They show it as included.			
S-10	RB	S-103	At the roof hatch near col A5, coordinate the opening dimensions with Arch dwg A-515.			
S-11	RB	S-103	At Grid A, provide section cuts for the roof/wall sections.			
S-12	RB	S-104	There should be additional embedded plates between grids 2 and 2.3. See S-532 and S-533.			
S-13	RB	S-502	See sections 10 and 12. The top of the tie beam is at (-300mm) at the interior footings and at (-630mm) at the exterior footings. Does the tie beam step down between footings? Please clarify.			
S-14	RB	S-503	At section 4, the designations "wall/column" and "stem wall/column" imply that a pipe could run thru the column, above the footing. This should not be permitted. Please clarify that the pipe runs thru the wall and not the column.			
S-15	RB	S-503	At the electrical trench sections 9 and 10, the depth and width of the trench are not shown and the size and extent of the metal grating are not shown on the Elect or Arch drawings. Please coordinate and clarify.			

Design Review
EXECUTIVE OFFICE BUILDING – BUILDING 1
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

S-16	RB	S-513	At Detail 5, please call out the typical wall horizontal reinforcement.			
S-17	RB	S-513	At Detail 7, the lintel section width should be 150, not 200. Coordinate with Arch. I did not find any 200mm partitions.			
S-18	RB	S-514	Does the concrete wall reinforcing extend into/thru the concrete columns? Please provide details to clarify.			
S-19	RB	S-551	Are two Entrance Canopies required? Coordinate with Arch Elevations and Sections.			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

<u>Excel Worksheet</u>		
<u>Name</u>	<u>Description</u>	<u>Printed Page Number</u>
Index Sheet	Excel Workbook Index	1
Architectural	Architectural Drawing Comments	2-4
Mechanical	Mechanical Drawing Comments	5-10
Plumbing	Plumbing Comments	11
Electrical	Electrical Drawing Comments	12-13
Communications	Communications Comments	14-15
Fire Alarm	Fire Alarm Comments	16
Structural	Structural Drawing Comments	17

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ARCHITECTURAL DRAWINGS						
A-1	KCB	Spec 07 21 00	Is there any foam plastic insulation that is not part of the EIFS system? If not remove from this spec section as the EIFS insulation is in the EIFS spec.			
A-2	KCB	Spec 07 41 13	Under performance requirements the metal soffit panels are not listed. Coordinate with the structural engineer to see what loads the soffits will need to resist and make sure they are listed in this specification.			
A-3	KCB	Spec 07 41 13	Make sure roof load requirements match the structural notes, it appears you are calling for different snow load requirements (check others too).			
A-4	KCB	Spec 07 41 13 and 07 42 13	There are 2 different levels of galvanization required under miscellaneous metal framing for these 2 spec sections. Shouldn't they be the same? Which one is more readily available in-country?			
A-5	KCB	Specs 07 42 13 and 08 90 00	Which of these is used where? - it is not clear.			
A-6	KCB	Spec 08 80 00	Fire rated glazing is included in this specification however based on the drawings it does not appear there is a need for any in Phase 1. Is it needed for Phase 2?			
A-7	KCB	Spec 08 80 00	Where are glass types called out on the drawings? What is the intent of including delegated design since specific design criteria has not been provided?			
A-8	KCB	Spec 09 93 00	Where is this used? I do not see it called out on the drawings as either a wall finish, floor finish or exterior finish. If it is SC on the Finish Schedule make that clear.			
A-9	KCB	Spec 10 21 13	You have 2 specs with 2 different materials but neither one is called out on the drawings.			
A-10	KCB	Spec 10 44 13 and 10 44 16	Are all fire extinguishers in cabinets or are some bracket mounted? If they are in cabinets add detail to the drawing set showing how that works in the typical wall.			
A-11	KCB	Spec 10 44 13	Is there any need for 2 hour cabinets?			
A-12	KCB	Spec 10 82 13	Is this specification for building mounted sunshades? I do not see any sunshades on the architectural drawings.			
A-13	KCB	Drawings	Throughout the set there is inconsistent text size, sheet to sheet and detail to detail.			
A-14	KCB	LS-001	Add paragraph "OTHER FIRE RESISTANCE RATED SEPARATION" storage rooms over 100 SF (9.29 SM) should be listed as 1 hour per table 508.2 INCIDENTAL USE AREAS. Storage 015 is over 9.29 SM and needs to be separated with a 1 hour fire barrier.			
A-15	KCB	LS-001	Add a paragraph about accessibility.			
A-16	KCB	A-001	There are abbreviations used on the drawings that are not coordinated with the architectural abbreviations list including but not limited to the following: ELEV, M, MM, LP, HP.			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-17	KCB	A-101	Who is locating housekeeping/equipment pads? The structural drawings refer to arch and MEP but neither locates or dimensions them.			
A-18	KCB	A-101	Fix the column bubble /note conflict.			
A-19	KCB	A-104	Consider showing air terminals on this roof plan for coordination purposes.			
A-20	KCB	A-111	Consider showing all items that will be mounted on or hung from the ceiling on your reflected ceiling plan. These can be excellent coordination drawings to find conflicts between all trades.			
A-21	KCB	A-111	Add a space between LEVEL and REFLECTED in the drawing title.			
A-22	KCB	A-201	Elevation 1and 2 - Have the connections between the galvanized channels around the corrugated metal panels been designed? They are not drawn on the structural drawings.			
A-23	KCB	A-202	Add note pointing to the exterior lights.			
A-24	KCB	A-301	Check the LTSCALE as the lines in the doors are not showing up dashed.			
A-25	KCB	A-301	Building Section 2 - Remove the overhead door note and add a louver note at that location.			
A-26	KCB	A-351	Tag datums on wall sections, typ.			
A-27	KCB	A-351	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-28	KCB	A-351	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-29	KCB	A-351	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-30	KCB	A-351	Wall Section 1 - The EIFS note here is different than the typical EIFS note. Was this intentional?			
A-31	KCB	A-351	Wall Sections 1 and 2 - What is the sheet metal flashing/coping note pointing to?			
A-32	KCB	A-352	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-33	KCB	A-352	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-34	KCB	A-352	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-35	KCB	A-352	Wall Sections 1, 2 and 3 - The EIFS note here is different than the typical EIFS note. Was this intentional?			
A-36	KCB	A-353	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-37	KCB	A-353	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-38	KCB	A-353	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-39	KCB	A-353	Wall Sections 1 and 2 - The EIFS note here is different than the typical EIFS note. Was this intentional?			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-40	KCB	A-354	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-41	KCB	A-354	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-42	KCB	A-354	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-43	KCB	A-354	The EIFS note here is different than the typical EIFS note. Was this intentional?			
A-44	KCB	A-401	Dimension the location of the water closets and sinks, plumbing does not.			
A-45		A-401	Show floor drains.			
A-46	KCB	A-401	Who is showing how the floor slab slopes to the floor drains?			
A-47	KCB	A-511	Hatch cut through steel for clarity.			
A-48	KCB	A-511	Make the intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-49	KCB	A-512	Hatch cut through steel for clarity.			
A-50	KCB	A-512	Section Detail 2 - Make the intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-51	KCB	A-512	Make all cut line a consistent size.			
A-52	KCB	A-514	Hatch cut through steel for clarity.			
A-53	KCB	A-515	The note at the insulation on this sheet does not match the insulation note on the wall sections.			
A-54	KCB	A-602	Finish schedule - what does SC stand for (sealed concrete, stained concrete)? It is not on the materials index.			
A-55	KCB	A-602	Refer to S-101 - Plan Notes: says refer to arch drawings for slab finish requirements. I do not see where that arch drawings addresses this especially if this is referring to float vs. trowel vs. broom finish, coordinate. Spec section 07 18 00 (attic waterproofing) does list specific requirements.			
A-56	KCB	A-602	Finish schedule - Room name for room 010 has some spelling errors.			
A-57	KCB	A-603	Refer to S-513 and S-514 - The structural drawings show control joints in concrete and where CMU meets concrete but they do not appear to address control joints within CMU walls. A detail and /or note need to be added somewhere.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
MECHANICAL COMMENTS						
M-1	RUM	10 M-101	Provide single pair of branch pipe taps off HWS /HWR mains to serve this building, similar to other buildings. Include branch isolation valves, balancing valve, thermometers, etc., similar to other buildings.			
M-2	RUM	10 M-101	Correct typo at AST-1 fuel oil line note: c eivil			
M-3	RUM	10 M-503	Detail 6 on 10 M-503 has an additional bridge pipe between the common discharge of 10-HWP 1&2 and the boiler return. The configuration shown requires a full flow three way valve at the labeled bridge which is not shown on 10 M-101 or 10 M-503. If primary / secondary reset is required, provide the valve, otherwise delete the second bridge.			
M-4	RUM	10 M-503	Detail 6 on 10 M-503 has a manually valved bypass pipe between the common discharge of 10-HWP 3&4 and their suction. The bypass is not shown on 10 M-101. If the bypass is needed, show the piping and valve on 10 M-101, otherwise delete from the detail.			
M-5	RUM	10 M-101, 10 M-503	Show location and piping for closed loop water treatment tank on M-101. In M-503 details 6 and 8, it appears that the closed loop water treatment tank is the same as the chemical feed pot feeder. Confirm and use consistent naming of components.			
M-6	RUM	10 M-101	Locations shown for fuel tanks AST-1 and AST-2 appear to be reversed with respect to the FOP set locations. Reversing tank locations would allow for much shorter simpler fuel oil pipe routing.			
M-7	RUM	10 M-101	Consider using hydronic unit heaters in lieu of electric.			
M-8	RUM	DA calculations	Please include pump head calculations in support of 225kPa (75ft) secondary pump pressure capacity selection. This appears low for this central plant distribution system.			
M-9	RUM	DA calculations	Please include expansion tank volume calculations in support of 100l (265gal) expansion tank selection. This appears low for this central plant distribution system.			
M-10	RUM	10 M-503	Detail 1 - B&G does not advise to install flex connections on series 80 pumps. Confirm and remove if not needed. Advise to provide pressure gauge on in-line pumps as well as base mounted - piped to measure pressure before and after strainer, after pump, and atmosphere for zero adjustment (four valves, one gauge).			
M-11	RUM	10 M-503	Detail 2: Thermometers are not needed at inlet and outlet of pumps (same temperature). Advise to pipe single pressure gauge to read all points shown, plus open to atmosphere for zero adjustment. Include drain valve in detail.			
M-12	RUM	10 M-503	Details 1, 2, 4, and 5: Butterfly valves are called out to isolate pumps and boiler, but gate valves are shown isolating air separator. Confirm this is intent or amend details to show and call for consistent valve types.			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-13	RUM	10 M-503	Detail 5: Note and require that pressure relief valve discharge shall be piped to within 150mm of floor full size of outlet with no obstructions. Include pressure relief valve symbol in S&A sheet.			
M-14	RUM	10 M-504	Detail 4: The note "25mm from AST" should read from fuel oil pumps.			
M-15	RUM	10 M-703	Location shown for secondary pump Differential Pressure Sensor, directly across full pump head adjacent to pumps, does not take into account normal practice installation roughly 2/3 of the way out into the system across remote mains. The installation shown will control pressure only in the boiler room and will over pressurize system during periods of low demand and/or under pressurize during peak demand unless a more sophisticated sequence is implemented by installer than what is specified. Revise accordingly to optimize pumping, preferably with DPSs in two or more remote isolation valve vaults to maintain control when various main branches are isolated for service. Are the DPTs shown to serve this purpose on the civil drawings? They should also be located on 10 M-002.			
M-16	RUM	10 M-002	See general note 2. Bypass isolation valves are shown inconsistently and appear to not meet stated purpose of isolating portions of below grade piping while providing continued / emergency service. The pair of isolation valves serving the Executive Office Building 1 in quadrant E5 do serve this expressed intent, if each branch to a building had this configuration. Confirm intent and provide additional isolation valves with this configuration if possible and desirable.			
M-17	RUM	10 M-503, 10 M-504, A series.	Notes 3 and 4 on 10 M-102 are not sufficient to properly construct guide wire supports or penetrations. Provide details for boiler and generator stack deck and roofing penetrations and supports.			
M-18	RUM	10 M-102, 10 A-201	M-102 calls for louver blank off at one louver. A-201 appears to intend this attic space to be well ventilated with substantial louvers on three sides. We advise to use full plenum at active louvers not blank-off, and leave remainder open for cross ventilation. Question: with attic so well ventilated, does the exhaust need to be ducted to a louver at all?			
M-19	RUM	Mechanical cut sheets, mechanical calculations	Include pages 8 and 9 of Modine FTR catalog which show capacity correction factors, along with calculations comparing capacity of FTR at the design conditions (water velocity actually approx 0.25fpm not scheduled 3.0fpm, correction factor equals about 0.9, entering air actually about 70 not scheduled 65, correction factor equals about 0.93) to the heat losses shown in the calculations. In general, heating elements shown on drawings, corrected to roughly 500btu/ft, appear to have less capacity than may be needed.			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-20	RUM	Mechanical cut sheets	Highlight mechanical cut sheets with specific selections similar to plumbing cut sheets.			
M-21	RUM	Mechanical cut sheets	Boiler cut-sheet specifies Hurst Series 200. Schedule specifies Hurst Series 400. Coordinate.			
M-22	RUM	Mechanical cut sheets	Provide cut sheets for registers and grilles.			
M-23	RUM	Mechanical calculations	Boiler plant sizing calculations (and resultant boiler size scheduled) do not include heat losses through below grade piping. This omission could lead to under capacity at design heating conditions.			
M-24	DCG	10 M-504	Detail 1: Identify slab size under fuel tank. Show and call out vent pipe sizes and termination height above grade. Add anti siphon valve on lines to equipment. Confirm tank is a duplex tank as indicated. Identify overfill prevention alarm and leak detection.			
M-25	DCG	10 M-504	Detail 4: Identify sizes of vent piping. Add overfill and level alarm system.			
M-26	RUM	spec 230513	Clarify motor requirements for 3 phase VSD pump motors between 2.4.B.2 or .3. Consider including overheat thermostats, one per phase.			
M-27	RUM	spec 230516	Specify type of thermal expansion compensators required and edit out remainder. Preferred system includes flexible hose loops to avoid pressure thrust load calculations for anchors.			
M-28	RUM	spec 230517	Clarify if sleeve seal fittings are required at refrigerant piping penetrations of exterior walls. If not, define this condition in spec and on drawings.			
M-29	RUM	spec 230518	Paragraph 3.1.B.1: clarify which escutcheons are to be used on this project and where, edit out the unused remainder.			
M-30	RUM	spec 230519	Where are venturi flow meters used? Refer to location schedule in 3.1.R: 1) Define hydronic zone - this is either every FTR control valve which defines the heating zones, one set per building as shown on details, or it could be there is only one zone. (hydronic reset schedule?) 3) There are no "air handling units" - are thermometers required at all duct coils? 4) There is not thermal storage tank - clarify. 5) Are outside, return, supply, and mixed air ducts applicable to project?			
M-31	RUM	spec 230523	2.2 - three piece ball valves may be excessive for this service. 2.3 - Iron body ball valves may be excessive for this service. 2.5 - High performance butterfly valves are excessive for this service. 2.12 - Chainwheels appear to not be needed.			
M-32	RUM	spec 230529	Edit to remove hangars and supports not needed in this project (especially application schedules in 3.6). Paragraph 3.1.M: Pipe slopes are not indicated on drawings - are they in spec?			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-32	RUM	spec 230548	Confirm that an Ip of 1.5 required, as this raises costs for restraint system substantially. Equipment bases specified in 2.2 do not appear on drawings; if they are required, show on drawings and include in Part 3 execution. 2.3.D - cables should be specified as pre-stretched cables as part of UL listed or OSHPOD approved assemblies (not allowing installer to assemble from loose miscellaneous components)? 3.7.A - Are air mounted systems being used? If not, delete.			
M-33	RUM	spec 230553	Include below grade pipe locator tape. 2.4 - Consider stencils or self adhesive labels in lieu of engraved labels for duct.			
M-34	RUM	spec 230593	Paragraph 1.5.A: NEBB certification (per 1.3.B) is equal to these. AABC and/or TABB certified firms may not be available locally. Consider the Afghan equal to these agencies by including a phrase similar to "or the local equivalent". Include details on setting up variable speed drive pumping systems that include the design frequency and wide open or barely non-overloading triple duty valve settings. 3.12 and 3.15.F are in conflict, as are a few other specific equipment testing requirements - clarify.			
M-35	RUM	specs 230713, 230716, and 230719	These three insulation specifications include insulation types and procedures in excess of that required for this project. The specifications should be edited by removing superfluous content. The piping insulation specification needs to include an appropriate below grade insulation system.			
M-36	RUM	spec 230900	2.5.B - averaging sensors should be long enough for four passes minimum, not simply specified as "915mm". They are available up to 5m length. 3.4.B - control air testing is specified but not needed?			
M-37	RUM	spec 231113	Drawing detail calls for duplex strainer; paragraph 2.3.B specifies Y pattern - coordinate. Paragraph 2.11: No fuel maintenance system is shown on drawings - this may be needed and appropriate - show it on drawings if this is expected. 2.13 and 2.14 - similar concern - provide details on drawings to show where and how these are to be used. 3.8.F - who buys the oil? 3.21 - is flared copper not allowed at burner?			
M-38	RUM	spec 232113	2.1.A&B - types L and K? 2.6.F is not needed. Below grade piping is not specified but should be.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-39	RUM	spec 232123	2.2.C.1 - replaceable wear rings are not standard with most of these manufacturers. Are they needed for this simple hydronic heating service? 2.2.C.4 - mechanical seals may not be readily available as replacement parts, and the seal specified is not very durable under abrasive / aggressive water conditions. Consider specifying SiC/SiC seals with a spare seal delivered loose for each pump. 3.3 - factory authorized alignment needed for series 1510 pump may be difficult to obtain in Kabul and would not be needed if close coupled series 1531 or inline series 80 were specified and scheduled. 3.4.A - this is a hydronic not a steam system - edit to refer to section 232113. 3.4.E&F - suction diffusers and triple duty valves are specified - describe their use here as appropriate for base mounted pumps. 3.4.I - If condensate pumps are not used, delete this clause.			
M-40	RUM	spec 232300	2.2 - several of the listed specialties are applicable only to much larger split systems, not the mini ductless split systems scheduled. Edit as appropriate to project. 3.1.A - soldered joints are usually considered inappropriate for refrigerant piping - confirm this is an acceptable application. Are flared final connections allowed? 3.3.D - most piping is exposed - consider adding / requiring drawn temper tubing orthogonal to building for exposed piping in lieu of specified annealed flex line sets. 3.4.D&F - are these applicable?			
M-41	RUM	spec 233113	2.1.A and 2.2.A - static pressure class is not indicated. 2.3.B.2 - exposed duct mill phosphating should reference ASTM A2092. 2.3.D - tie rods are not required or advised for the small duct shown. 2.4.D solvent based sealant - consider deleting due to toxicity of volatile components. 2.5, 2.6, 3.5 and 3.6 - delete to avoid conflicts and instead reference appropriate spec sections. 3.9.C - is this cleanliness testing equipment available on site? 3.10 - is full cleaning of all new duct required? This may be excessive. Note NADCA 1992 (3.10.E.5) is very outdated - refer to latest edition of the NADCA ACR (2006?).			
M-42	RUM	spec 233300	2.2.A.2 - refer to ASTM A2092. 2.2.D - not required. 2.4.A&B - Which are required and where? Consider adding locations required to 3.1.D. 2.4.B & D aluminum dampers are used for aluminum duct typically and may be deleted. 2.5 - control dampers are specified in section 230900; 2.10 - delete from one section or the other (prefer to leave under controls and reference only in this section). 2.6.B - confirm dynamic type are required. 2.9.C and 3.1.H.4 - pressure relief access doors are very costly and are probably not needed in duct this small due to lack of dynamic pressure surge upon damper closure. Verify if this is a true requirement prior to specifying this. Confirm other specialized accessories are required.			
M-43	RUM	spec 233423	2.2.F - How many of these accessories are needed? (add list to schedule?)			
M-44	RUM	spec 233713	General - delete unused types.			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-44	RUM	spec 234100	Air filtration section is missing. Confirm it is not required or add to spec.			
M-45	RUM	spec 235100	2.1.E - type 304 s.s has only moderate resistance to corrosion from the products of fuel oil combustion, especially if the fuel has moderate to high sulphur content. Consider specifying 316L or AL 29-4C liner, and allowing aluminized steel exterior breeching / chimney. 2.2.A, B, and C - clarify to be project specific.			
M-46	RUM	spec 235201	2.1.A.1 - this appears to be a flat spec. Is this permissible? 2.3.H - specifies boilers however there is a boiler spec section 235239 which has more detail. It appears both specifications are not needed - consider deleting one of them and/or referring to the other to avoid duplication and discrepancies. 2.3.M - Turbine type flow meters require very clean water to avoid fouling and are not recommended for a central heating system of this type as it will be difficult to clear well enough for durable flow meter performance. Consider venturi meters or if the project finances can support vortex or mag meters, use those to achieve the (initial) accuracy of a turbine.			
M-47	RUM	spec 235239	2.2.B - the specified product is a three pass boiler, the cut sheets show a two pass boiler, and the drawings schedule a four pass boiler. Please coordinate. 2.4.J - The specified tankless heater is not shown on the drawings connected to the DHW system. Will it be used? 2.5.C.2 - consider the added safety of a second <i>manual</i> reset low water cutoff.			
M-48	RUM	spec 237430	Are these needed for phase two?			
M-49	RUM	spec 238126	2.2.A.6 - provide for auxiliary condensate control system in accordance with IMC 3.07.2.3			
M-50	RUM	spec 238220	Are these needed for phase two?			
M-51	RUM	spec 238239	2.1.I - there appear to be no hot water unit heaters on project. Delete clause if not needed.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
PLUMBING COMMENTS						
P-1	DCG	10 P-101	Add vent on 100 FD-1 at bottom left of Heating Equipment 010. Add water line for makeup water to boiler system. Add vent on FD-2 in Toilet 012			
P-2	DCG	10 P-101	Add emergency eyewash in Heating Equipment 010.			
P-3	DCG	10 P-701	Sanitary Riser: Add vent for floor drains. See plans for vent locations and from comment 1.			
P-4	DCG	10 P-501	Detail 1: Show high level alarm and leak detection probes and system for interceptor.			
P-5	DCG	10 P-501	Detail 2: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-6	DCG	10 P-501	Detail 4: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-7	DCG	10 P-501	Detail 6: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-8	DCG	10 P-501	Add detail for water heater.			
P-9	DCG	Design Analysis	Identify adding eyewash for the heating plant.			
P-10	DCG	Specifications	Section 220523: Purge out valves not wanted for this project (for example: Do you want gate or globe valves?)			
P-11	DCG	Specifications	Section 220529: Purge out hanger materials not wanted for this project (for example fiberglass hangers or struts?)			
P-12	DCG	Specifications	Section 220719: Purge out insulation materials not wanted for this project (for example mastics or jacketing?)			
P-13	DCG	Specifications	Section 221116: Purge out piping materials not wanted for this project (for example PVC or PP piping?)			
P-14	DCG	Specifications	Section 221119: 2.3, A: Where installed? 2.4, A: Where installed? 2.5: Select which balance valve for this project. 2.6, A: Where installed?			
P-15	DCG	Specifications	Section 221316: Purge out piping materials not wanted for this project (for example ABS piping?)			
P-16	DCG	Specifications	Section 22132: 2.2: Select which type of oil interceptor you want for this project			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ELECTRICAL COMMENTS						
E-1	DOSS	10 E-002	General note 5. Remove sentence "All electrical local...shall be white UNO." and make it its own note.			
E-2	DOSS	10 E-002	General Note 5 states MC cable can be used for all branch circuit wiring except the homeruns. General note 9 states all raceways are surface mounted from the panelboard to the utilization devices, UNO. Is it the intent to install MC cable exposed as these notes infer?			
E-3	DOSS	10 E-102	Consider adding exit lights over the two (2) exterior doors			
E-4	DOSS	10 E-102	Add ECE/PDB, CS and VFD to Sheet 1- E-001 Abbreviations			
E-5	DOSS	10 E-102	Show motor symbols for 10-HWP-1 and 10-HWP-2			
E-6	DOSS	10 E-102	Show motor symbols and labels for 1-B-1 and 10-B-2			
E-7	DOSS	10 E-102	Add junction box and power connection for generator exhaust motorized damper			
E-8	DOSS	10 E-102	The feeder between the Gen. Cont. Panel and the ATS conflicts with Partial One Line Diagram - Building 10 on drawing 10 E-501 (31 vs. 32)			
E-9	DOSS	10 E-102	The service lateral to the ATS conflicts with the Partial One Line Diagram - Building 10 on drawing 10 E-501(35 vs. 32)			
E-10	DOSS	10 E-102	The feeder to the Executive Building 1 conflicts with the Partial One Line Diagram - Building 10 on drawing 10 E-501(15 vs. 22)			
E-11	DOSS	10 E-102	Notes on right side of sheet for underground conduit state to provide pull strings which is in conflict with Partial One Line Diagram - Building 10 on drawing 10 E-501			
E-12		10 E-102	Provide power connection for ETP-1			
E-13	DOSS	10 E-102	Verify that the EUH's require combination starters. EUH's usually have their own contactors.			
E-14	DOSS	10 E-103	Consider adding a light switch and lighting to the attic			
E-15	DOSS	10 E-103	Add a maintenance outlet to the attic			
E-16	DOSS	10 E-104	Lightning air terminal quantities and locations are not proper for a gently sloping shed roof			
E-17	DOSS	10 E-104	Ground rod note should refer to dwg E-801 for detail			
E-18	DOSS	10 E-501	There are no system grounding/bonding details			
E-19	DOSS	10 E-501	There is no service disconnecting means			
E-20	DOSS	10 E-501	Service lateral wire size is not on feeder schedule			
E-21	DOSS	10 E-501	Service lateral wire size is in conflict withdrawing 10 E-102 (32 vs. 35)			
E-22	DOSS	10 E-501	Partial One Line Diagram - Building 10, consider 400 amp ATS			
E-23	DOSS	10 E-501	Partial One Line Diagram - Building 10, label ATS-B as a 3 pole, solid neutral or 4 pole transfer switch			
E-24	DOSS	10 E-501	Partial One Line Diagram - Building 10, type 32 feeder size is not in feeder schedule			
E-25	DOSS	10 E-501	The feeder to Building 1 ATS-B01 conflicts with drawing 10 E-102 (22 vs.15)			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
E-26	DOSS	10 E-501	Partial One Line Diagram - Building 10, what is the size of the ground electrode to building grounding loop noted at the generator			
E-27	DOSS	10 E-501	Panelboard schedule EG-PP1B does not include loads for site lighting or Pump House panel EGPP-1			
E-28	DOSS	10 E-502	Mechanical Equipment Schedule, clarify which motors are supplied from ECE/PDP and which are not, specifically hot water pumps and boilers			
E-29	DOSS	10 E-502	Mechanical Equipment Connection Schedule, verify if motor controllers are required for the exhaust fans			
E-30	DOSS	10 E-502	No light fixture cut sheets are included in the DA			
E-31	DOSS	Spec 260519	Add metric wire sizes along with AWG wire sizes			
E-32	DOSS	Spec 260519	Part 3 infers that MC cables can be installed exposed			
E-33	DOSS	Spec 260526	Add metric wire sizes along with AWG wire sizes			
E-34	DOSS	Spec 260529	Part 3.1 C. is not edited			
E-35	DOSS	Spec 260533	Part 3.2 A. Delete "Comply with NECA 102 for aluminum conduits" since aluminum is not specified			
E-36	DOSS	Spec 260533	Part 3.2 F. Define "for which few bends are allowed"			
E-37	DOSS	Spec 260536	Confirm specification section is not required			
E-38	DOSS	Spec 260553	Part 3.2 J. 1. Delete sentence restricting use of underground warning tape			
E-39	DOSS	Spec 260553	Part 3.2 O. 1. a. is not edited			
E-40	DOSS	Spec 260573	Part 1.5 b. 1. requires licensing in the state where Project is located, modify requirement			
E-41	DOSS	Spec 262416	Part 1.2 A. 3. delete load centers from list			
E-42	DOSS	Spec 262713	Confirm specification section is not required			
E-43	DOSS	Spec 262726	Add metric wire sizes along with AWG wire sizes			
E-44	DOSS	Spec 262726	Part 3.4 B. 1. Modify voltages for 220 volts			
E-45	DOSS	Spec 263213	Entire spec section is not edited			
E-46	DOSS	Spec 263600	Entire spec section is not edited			
E-47	DOSS	Spec 265100	Part 2.8 C. delete self luminous signs			
E-48	DOSS	Spec 265600	Confirm specification section is not required			
E-49	DOSS	DA	The DA does not include any voltage drop calculations, short circuit calculations or lighting calculations			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
COMMUNICATIONS COMMENTS						
C-1	JLB	DA	The telecommunications DA is one paragraph which has been used for all buildings reviewed. It is not specific to any one building. What is said in the DA regarding telecommunications appears to be true with the exception of protectors for cabling. No specification and or drawing detail contained any information regarding protectors. Protectors will need to be provided and should be specified.			
C-2	JLB	General Reference	No Telecommunications site drawings and/or specifications were provided for this review.			
C-3	JLB	10/11 E-001	Telecommunications Symbols: The first symbols on this page indicates an arrow with a tag that indicates the corresponding telecommunications room that the conduit is associated with. This symbol is not used on any of the other drawings.			
C-4	JLB	10/11 E-001	Telecommunications Symbols: None of the outlet symbols give quantities of cables therefore these outlet symbols should be identified on drawing 1 E-802 next to the corresponding "typical port outlet." Without this information the correct cable counts for material quantities and pathway fills cannot be determined.			
C-5	JLB	10/11 E-001	Telecommunications Symbols: A solid triangle symbol represents a telephone outlet according to the symbol definition. If this is correct then the mounting height should be reviewed as telephone outlets are normally mounted at 1219mm AFF per code.			
C-6	JLB	10/11 E-001	Telecommunications Symbols: An encircled JT symbolizes a surface mounted J/Box for tele/data. It is not clear whether or not this is intended to be an empty pathway or if this symbol represents a tele/data outlet. If this symbol is intended to represent a tele/data outlet then quantities or outlet type needs to be identified along with the encircled JT symbol.			
C-7	JLB	10/11 E-001	Telecommunications Symbols: The symbol for TGB is not indicated on any other drawings. This symbol should appear in the telecommunications rooms.			
C-8	JLB	10/11 E-001	Telecommunications Symbols: The ladder cable tray size indicated on this drawing is in conflict with the size specified in Div 27 11 00.			
C-9	JLB	10/11 E-001	Communications rack/ cabinet symbols should be indicated in the list as they are shown on the layout drawings			
C-10	JLB	10/11 E-102	Telecommunications rack not shown in maintenance room.			
C-11		10/11 E-102	Plywood backboard shown covering windows in maintenance room.			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
C-12	JLB	10/11 E-102	Consider moving Telecommunications outlets out from under windows in order to simplify construction. Ex grid A-3.			
C-13	JLB	10/11 E-102	Add note to this drawing indicating that conduits for communications outlets are to be home run to the maintenance room if cable tray is not intended to be used.			
C-14	JLB	Div 27 05 28	2.6 J: Device box size in conflict with size indicated on drawing E-802			
C-15	JLB	Div 27 05 28	3.2-I coordinate this section with notes on the drawings referring to embedding conduits in the slab. Make sure that they don't contradict each other.			
C-16	JLB	Div 27 05 28	Consolidate 3.2-F into 3.2-S as F leads you to believe that only two 90 degree bends are allowed.			
C-17	JLB	Div 27 05 36	2.6 A: Select testing standard/s			
C-18	JLB	Div 27 05 36	Remove 3.1 K and J: single rail cable trays are not being used nor are buss assemblies.			
C-19	JLB	Div 27 05 36	3.5 A Select or remove bracketed selection.			
C-20	JLB	Div 27 10 00	2.2 A Coordinate plywood back board size on drawings with this spec Drawings say 21mm and specs indicate 19mm			
C-21	JLB	Div 27 10 00	2.2 A Section 061000 Rough carpentry is not listed with the table of contents for this project. Change spec reference or provide 061000			
C-22	JLB	Div 27 10 00	2.5 B 2: coordinate TGB size indicated on drawings with the one specified here.			
C-23	JLB	Div 27 13 00	1.2 A Remove pathways in its entirety from this spec. Include any pertinent information into Div 27 05 28 communications pathway spec..			
C-24	JLB	Div 27 13 00	2.2. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-25	JLB	Div 27 13 00	2.1 D coordinate outlet box size with drawings and other specs as there are different sizes shown on each.			
C-26	JLB	Div 27 13 00	Consolidate back boards into Div 27 11 00. Its not recommended to specify the same thing in multiple locations.			
C-27	JLB	Div 27 13 00	2.3 B Remove the brackets or delete the selection for overall jacket.			
C-28	JLB	Div 27 13 00	There is no specification for fiber optical cabling. Only installation requirements. Review design and determine if and where Fiber Optical cabling will be necessary.			
C-29	JLB	Div 27 15 00	1.2 A Remove Pathways from this spec. Pathways are outlined in Div 27 05 28.			
C-30	JLB	Div 27 15 00	2.3. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-31	JLB	Div 27 15 00	2.5 B: Remove "formed into 25-pair, binder groups" This is not a characteristic of four pair cabling.			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
FIRE ALARM COMMENTS						
FA-1	DOSS	Spec/DA/Drawings	No fire alarm system to review			

Design Review
HEATING PLANT - GENERATOR – BUILDING 10 - 11
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
STRUCTURAL COMMENTS						
S1	FRS	10 S-001	In Structural Abbreviations, AISC should read "Construction" not "Contractors"			
S2	FRS	10 S-002	CIP Conc note 27, Table 2 - revise cast against earth to 75mm			
S3	FRS	10 S-002	Steel Deck note 3; The roof deck appears to be 3"x22 gage, Type N deck. Please verify minimum section properties (S & I) are correct. They appear too low.			
S4	FRS	10 S-101	Verify dimensions against architectural layout with consideration to modular metric block unit dimensions assumed to be 200mm. If blocks are obtained locally, are the forms set for "hard" metric or "soft" metric units? - avoid special forms if possible and may help reduce block cutting if architectural elements are metric.			
S5	FRS	10 S-101	Note 2 - revise to "compacted granular base".			
S6	FRS	10 S-101	Why a curb around eastern style water closet? Refer to catalogue cut detail to clarify intended blockout size and ledge.			
S7	FRS	10 S-102	Section 5/S522 not applicable.			
S8	FRS	10 S-103	Embedded plate dimension 2015 does not match 3/S531 plate dimension 1960.			
S9	FRS	10 S-501	If open stirrups and crossties are used in lieu of closed ties - provide note "Spandrels - Place 90deg side of crosstie hook on slab-confined side. Interior - Alternate 90deg ends of consecutive crossties."			
S10	FRS	10 S-502	Detail 3/S502 - Alternative to cutting every other bar (would be deeper than T/4) may be to fabricate shorter bars (stops both sides of saw cut) for alternating bars. Remove errant text on this sheet.			
S11	FRS	10 S-502	Detail 8/S502 - indicate a 90 deg hook for wall vertical steel to develop into the SOG.			
S12	FRS	10 S-502	Is a thickened slab required beneath the non-loadbearing walls?			
S13	FRS	10 S-503	Detail 1/S503 - Remove callout for column. Do not locate penetrations through column.			
S14	FRS	10 S-514	Roof concrete walls have one layer of reinforcing with bond beam above opening - Revise sheet to conform with sections 3/S522 and 5/S522.			

Design Review
OFFICE BUILDINGS – BUILDING 2
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

<u>Excel Worksheet</u>		
<u>Name</u>	<u>Description</u>	<u>Printed Page Number</u>
Index Sheet	Excel Workbook Index	1
Architectural	Architectural Drawing Comments	2-6
Mechanical	Mechanical Drawing Comments	7-11
Plumbing	Plumbing Comments	12-13
Electrical	Electrical Drawing Comments	14-15
Communications	Communications Comments	16-18
Fire Alarm	Fire Alarm Comments	19
Structural	Structural Drawing Comments	20-21

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ARCHITECTURAL DRAWINGS						
A-1	KCB	05 52 13 and 05 73 00	Both of these spec sections have perforated metal in them and they call for 2 different patterns. Are they both needed? If so make sure to call out on the drawings which one is used where.			
A-2	KCB	Spec 07 21 00	Is there any foam plastic insulation that is not part of the EIFS system? If not remove from this spec section as the EIFS insulation is in the EIFS spec.			
A-3	KCB	Spec 07 41 13	Under performance requirements the metal soffit panels are not listed. Coordinate with the structural engineer to see what loads the soffits will need to resist and make sure they are listed in this specification.			
A-4	KCB	Spec 07 41 13	Make sure roof load requirements match the structural notes, it appears you are calling for different snow load requirements (check others too).			
A-5	KCB	Spec 07 41 13 and 07 42 13	There are 2 different levels of galvanization required under miscellaneous metal framing for these 2 spec sections. Shouldn't they be the same? Which one is more readily available in-country?			
A-6	KCB	Specs 07 42 13 and 08 90 00	Which of these is used where? - it is not clear.			
A-7	KCB	Spec 08 41 13	Paragraph 2.6, L. The maximum height listed 13mm is technically higher than 1/2" (ADA) and it differs from what is listed in 08 71 11 (12.7mm).			
A-8	KCB	Spec 08 80 00	Fire rated glazing is included in this specification however based on the drawings it does not appear there is a need for any in Phase 1. Is it needed for Phase 2?			
A-9	KCB	Spec 08 80 00	Where are glass types called out on the drawings? What is the intent of including delegated design since specific design criteria has not been provided?			
A-10	KCB	Spec 09 93 00	Where is this used? I do not see it called out on the drawings as either a wall finish, floor finish or exterior finish. If it is SC on the Finish Schedule make that clear.			
A-11	KCB	Spec 10 21 13	You have 2 specs with 2 different materials but neither one is called out on the drawings.			
A-12	KCB	Spec 10 44 13 and 10 44 16	Are all fire extinguishers in cabinets or are some bracket mounted? If they are in cabinets add detail to the drawing set showing how that works in the typical wall.			
A-13	KCB	Spec 10 44 13	Is there any need for 2 hour cabinets?			
A-14	KCB	Spec 10 82 13	Is this specification for building mounted sunshades? I do not see any sunshades on the architectural drawings.			
A-15	KCB	Spec 12 36 61	Paragraph 2.2, A, 4. - Color is indicated on Materials Index on the drawings.			
A-16	KCB	Drawings	Throughout the set there is inconsistent text size, sheet to sheet and detail to detail.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-17	KCB	LS-001	Egress Summary - Ground Level chart - Egress width provided (horiz), assuming this is referring to the corridor widths the corridors are dimensioned 1475MM versus the 2547MM in this chart			
A-18	KCB	LS-001	In the OPENING PROTECTIVES paragraph be clear on the types of rated partitions. Corridors are 1 hour fire partitions, stairs exit enclosures are 1 hour fire barriers that require 60 minute doors			
A-19	KCB	LS-001	In paragraph "OTHER FIRE RESISTANCE RATED SEPARATION" storage rooms over 100 SF (9.29 SM) should be listed as 1 hour per table 508.2 INCIDENTAL USE AREAS. Storage rooms 056 and 156 are over 9.29 SM and need to be separated with a 1 hour fire barrier.			
A-20	KCB	LS-001	Add a paragraph about accessibility.			
A-21	KCB	LS-101	The LEGEND needs to distinguish between 1 hour fire partitions and 1 hour fire barriers.			
A-22	KCB	LS-101	Stair 1 needs to be enclosed per Section 1020 of the IBC 2006.			
A-23	KCB	LS-101	The exit through Stair 2 doesn't discharge directly to the exterior as stated in Paragraph 4.3 on LS-001.			
A-24	KCB	LS-102	The LEGEND needs to distinguish between 1 hour fire partitions and 1 hour fire barriers.			
A-25	KCB	LS-102	Stair 1 needs to be enclosed per Section 1020 of the IBC 2006.			
A-26	KCB	A-001	There are abbreviations used on the drawings that are not coordinated with the architectural abbreviations list including but not limited to the following: ELEV, TLTS, M, MM, LP, HP.			
A-27	KCB	A-101	When Stair 1 becomes enclosed can exit from courtyard go through the stair?			
A-28	KCB	A-102	Coordinate callouts with room tags - room tag in open office 142 is hard to read.			
A-29	KCB	A-104	Consider showing air terminals on this roof plan for coordination purposes.			
A-30	KCB	A-104	The leader conflicts with the steel roof assembly note.			
A-31	KCB	A-111	Consider showing all items that will be mounted on or hung from the ceiling on your reflected ceiling plan. These can be excellent coordination drawings to find conflicts between all trades.			
A-32	KCB	A-112	Consider showing all items that will be mounted on or hung from the ceiling on your reflected ceiling plan. These can be excellent coordination drawings to find conflicts between all trades.			
A-33	KCB	A-201	Draw courtyard elevations so that there is a place to tag the windows.			
A-34	KCB	A-201	Elevation 2 - Have the connections between the galvanized channels around the corrugated metal panels been designed? They are not drawn on the structural drawings.			

Design Review
OFFICE BUILDINGS – BUILDING 2
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-35	KCB	A-202	On Drawing S-105 there is a structural NOTE which is pointing to the wall between col lines 5 and 6 that says "LOUVER OPENING BELOW (SEE ARCH)". This drawing is showing all those areas as corrugated panels. Who is correct?			
A-36	KCB	A-202	Elevation 1 and 2 - Have the connections between the galvanized channels around the corrugated metal panels been designed? They are not drawn on the structural drawings.			
A-37	KCB	A-301	Refer to drawings E-103 - There is a note that says ceiling fans are mounted at 900MM below the ceiling slab, based on the TOS and slab thickness this put the fans at 2050MM AFF, this seems low. Consider having electrical raise them up.			
A-38	KCB	A-301	Building Section 1 - Stair 1 is incorrectly labeled as Stair 2.			
A-39	KCB	A-301	Consider tagging the courtyard windows on this sheet.			
A-40	KCB	A-351	Tag datums on wall sections, typ.			
A-41	KCB	A-351	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-42	KCB	A-351	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-43	KCB	A-351	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-44	KCB	A-352	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-45	KCB	A-352	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-46	KCB	A-352	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-47	KCB	A-353	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-48	KCB	A-353	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-49	KCB	A-353	Consider using wipe out where detail tags overlap drawing information.			
A-50	KCB	A-353	Wall Sections 1 and 3 - There is missing gravel hatch near the footing. Is there supposed to be a perimeter drain there?			
A-51	KCB	A-354	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-52	KCB	A-354	At the notes pointing to the roof camber there is information that needs to be filled in.			
A-53	KCB	A-354	The wall section drawing title needs to be moved over to the left.			
A-54	KCB	A-354	Wall Section 2 - is the steel channel that is acting as a gutter sloped for positive drainage?			
A-55	KCB	A-401	The concrete beams are missing from these sections, coordinate with structural drawing S-541.			

Design Review
OFFICE BUILDINGS – BUILDING 2
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-56	KCB	A-402	The concrete beams are missing from these sections, coordinate with structural drawing S-541.			
A-57	KCB	A-402	The fire alarm drawings for BLDG 1 include 2 way communication to an area of refuge in Stair 3. This is required for this building also. The Fire Alarm drawings are not showing but they should. Coordinate with the fire protection engineer or electrical engineer to get this covered.			
A-58	KCB	A-403	It appears that toilet accessory T-3B conflicts with the grab bars and the hand held bidet in the accessible toilet stall.			
A-59	KCB	A-403	Dimension the location of the water closets and sinks, plumbing does not.			
A-60	KCB	A-404	Who is showing how the floor slab slopes to the floor drains? Plumbing detail 3/P-501 refers back to arch drawings for "exact requirements".			
A-61	KCB	A-404	Show floor drains and toilet partitions.			
A-62	KCB	A-511	Hatch cut through steel for clarity.			
A-63	KCB	A-511	Add drawing title to bottom left detail (Detail 4)			
A-64	KCB	A-511	Details 3 and 4 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-65	KCB	A-511	Detail 3 - show insulation continuing to the cut line.			
A-66	KCB	A-511	Detail 3 - fix leader that points to the C200 channel it is pointing to the insulation.			
A-67	KCB	A-512	Hatch cut through steel for clarity.			
A-68	KCB	A-512	Details 2 and 4 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-69	KCB	A-513	Hatch cut through steel for clarity.			
A-70	KCB	A-514	Hatch cut through steel for clarity.			
A-71	KCB	A-515	Some of the detail titles are missing and one is conflicting with detail notes.			
A-72	KCB	A-515	The note at the insulation on this sheet does not match the insulation note on the wall sections.			
A-73	KCB	A-602	At door 015 - The fire rating is listed as 20 minutes but it should be 60 minutes per table 715.4 (doors in fire barriers specifically exit enclosures).			
A-74	KCB	A-603	Refer to S-513 and S-514 - The structural drawings show control joints in concrete and where CMU meets concrete but they do not appear to address control joints within CMU walls. A detail and /or note need to be added somewhere.			
A-75	KCB	A-603	Coordinate with MEP to get thru-wall fire stop penetration details shown in the set with UL Design #'s.			

Design Review
OFFICE BUILDINGS – BUILDING 2
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-76	KCB	A-604	Refer to S-101, S-102 and S-103 - Plan Notes: says refer to arch drawings for slab finish requirements. I do not see where that arch drawings addresses this especially if this is referring to float vs. trowel vs. broom finish, coordinate. Spec section 07 18 00 (attic waterproofing) does list specific requirements.			
A-77	KCB	A-604	Finish schedule - what does SC stand for (sealed concrete, stained concrete)? It is not on the materials index.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
MECHANICAL COMMENTS						
M-1	CSR	2 M-001	Add to MECHANICAL ABBREVIATIONS: DU - DOOR UNDERCUT			
M-2	RHM	2 M-101	It is unlikely that 608l/s can leak through one double and one single leaf exterior door to provide makeup air for all exhaust systems. Provide for tempered make-up air to maintain design flow rates at reasonable pressure drop from interior to exterior.			
M-3	CSR	2 M-101	Evaluate heating capacity of fin tube radiation in the following rooms which have less than 12 BTU/hr per SF of floor space: Conference 023, Open Office 030, Open Office 050, and Conference 053. Note that on pages 45 and 46 of the Design Analysis heating loads total 153,000 Btu/hr and 155,378 Btu/hr on ground and first floor respectively. This corresponds to an average of load of 12 Btu/hr per SF of floor space overall. The above rooms have radiation with the capacity of about 10 Btu/hr per sf with roof loads, and several windows.			
M-4	CSR	2 M-101	For clarity, indicate or note runout locations; supply and return down in exterior corners and risers up to first level units on the inboard take-offs.			
M-5	CSR	2 M-101	Consider reverse return piping layout since the floor plan would require minimum extra pipe to do so. This would reduce overall pump head requirements, simplify balancing, and minimize problems with getting flow to the end units.			
M-6	CSR	2 M-101	In MECH 040, indicate that pipe rises and runs in space above the ceiling.			
M-7	CSR	2 M-101	Confirm that self-contained thermostatic valves are appropriate for rooms with multiple elements. If remote thermostat and control valves as specified are needed, show wall thermostats to control two-way fin tube radiation valves.			
M-8	CSR	2 M-101	Verify that natural ventilation is acceptable to meet minimum outside air rates in accordance with the 2006 International Mechanical Code.			
M-9	CSR	2 M-101	Consider upsizing 2" (50 mm) building mains to 65 mm. Total building flow is about 48 gpm and at 2", friction loss is over 4 feet per 100 feet of pipe.			
M-10	CSR	2 M-101	Consider addition of fin tube radiation to STAIR 1 on the ground level; stair currently has no heat provided.			
M-11	RHM	2 M-101	Provide for thermal expansion movement in straight runs of piping over 25m (80ft) long. This condition exists in 8 locations.			
M-12	CSR	2 M-102	See Notes M-2, M-4, M-6 above for M-101.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-13	CSR	2 M-103	Upsize active exhaust air louver to at least 300mm (12") to accommodate 1300 CFM exhaust through a louver with free area of 40% or less to maintain a maximum of 900 fpm.			
M-14	CSR	2 M-501	Fan Schedule- 2-EF-1 and 2-EF-3: change airflow to 164 L/s and 347 CFM to reflect 140+24 CFM noted for exhaust grilles.			
M-15	CSR	2 M-501	Fan Schedule- 2-EF-2 and 2-EF-4: change airflow to 140 L/s and 300 CFM to reflect 140 CFM noted for exhaust grilles.			
M-16	CSR	2 M-501	Fan Schedule- Add a Note 4. to read "Provide a speed controller at the fan to adjust airflow to design L/S (CFM)." Add Note 4. to "Remarks".			
M-17	CSR	2 M-501	Hot Water Fin Tube Radiator Schedule- For both FT-1 and FT-2 Rating Capacity, change values to 0.577 (metric) and 0.600 (i-p) to reflect KW/M and MBH/FT labels.			
M-18	CSR	2 M-501	Hot Water Fin Tube Radiator Schedule- Add a column for "ENCLOSURE HEIGHT" and a value of 200mm (8") for both FT-1 and FT-2.			
M-19	CSR	2 M-501	Hot Water Fin Tube Radiator Schedule- Consider upsizing flow to 0.5 gpm (0.032 L/S). Laminar flow will develop below this point, significantly decreasing heat capacity. Pipe sizes may have to be adjusted.			
M-20	CSR	2 M-501	Detail 2- Add a manual, high capacity air vent at the top of the system, somewhere above a First Level unit, in addition to the incoming automatic air vent.			
M-21	CSR	2 M-501	Detail 4- Show thermostat symbol for control of modulating valve according to Sequence of Operation.			
M-22	CSR	2 M-501	Add Piping Hanging Detail.			
M-23	RHM	Design Analysis Appendix D.1. Cut Sheets	Provide cut sheets for registers and grilles.			
M-24	RHM	Design Analysis Appendix D.1. Cut Sheets	Highlight mechanical cut sheets with specific selections similar to plumbing cut sheets.			
M-25	CSR	BOQ	Mech. 11.1, Item 1 should read "164 L/S" and Item 2 should read "140 L/S".			
M-26	CSR	TABLE OF CONTENTS	Include section 23 07 13 - Duct Insulation in Phase I manual.			
M-27	CSR	Specification 23 05 53 - Identification for HVAC Piping and Equipment.	Provide specification for identification of buried pipe.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-28	CSR	Specification 2307 19 - HVAC Piping Insulation	Provide specification for insulation of underground piping for HWS/HWR pipe mains. Provide provisions for pipe movement at expansion loops.			
M-29	RHM	Mech details	Provide detail for refrigerant piping wall penetrations.			
M-30	RHM	spec 230516	Specify type of thermal expansion compensators required and edit out remainder. Preferred system includes flexible hose loops to avoid pressure thrust load calculations for anchors.			
M-31	RHM	spec 230517	Clarify if sleeve seal fittings are required at refrigerant piping penetrations of exterior walls. If not, define this condition in spec and on drawings.			
M-32	RHM	spec 230518	Paragraph 3.1.B.1: clarify which escutcheons are to be used on this project and where, edit out the unused remainder.			
M-33	RHM	spec 230519	Where are venturi flowmeters used? Refer to location schedule in 3.1.R: 1) Define hydronic zone - this is either every FTR control valve which defines the heating zones, one set per building as shown on details, or it could be there is only one zone. (hydronic reset schedule?) 3) There are no "air handling units" - are thermometers required at all duct coils? 4) There is not thermal storage tank - clarify. 5) Are outside, return, supply, and mixed air ducts applicable to project?			
M-34	RHM	spec 230523	2.2 - three piece ball valves may be excessive for this service. 2.3 - Iron body ball valves may be excessive for this service. 2.5 - High performance butterfly valves are excessive for this service. 2.12 - Chainwheels appear to not be needed.			
M-35	RHM	spec 230529	Edit to remove hangars and supports not needed in this project (especially application schedules in 3.6). Paragraph 3.1.M: Pipe slopes are not indicated on drawings - are they in spec?			
M-36	RHM	spec 230548	Confirm that an Ip of 1.5 required, as this raises costs for restraint system substantially. Equipment bases specified in 2.2 do not appear on drawings; if they are required, show on drawings and include in Part 3 execution. 2.3.D - cables should be specified as pre-stretched cables as part of UL listed or OSHPOD approved assemblies (not allowing installer to assemble from loose miscellaneous components)? 3.7.A - Are air mounted systems being used? If not, delete.			
M-37	RHM	spec 230553	Include below grade pipe locator tape. 2.4 - Consider stencils or self adhesive labels in lieu of engraved labels for duct.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-38	RHM	spec 230593	Paragraph 1.5.A: NEBB certification (per 1.3.B) is equal to these. AABC and/or TABB certified firms may not be available locally. Consider the Afghan equal to these agencies by including a phrase similar to "or the local equivalent". Include details on setting up variable speed drive pumping systems that include the design frequency and wide open or barely non-overloading triple duty valve settings. 3.12 and 3.15.F are in conflict, as are a few other specific equipment testing requirements - clarify.			
M-39	RHM	specs 230713, 230716, and 230719	These three insulation specifications include insulation types and procedures in excess of that required for this project. The specifications should be edited by removing superfluous content. The piping insulation specification needs to include an appropriate below grade insulation system.			
M-40	RHM	spec 230900	2.5.B - averaging sensors should be long enough for four passes minimum, not simply specified as "915mm". They are available up to 5m length. 3.4.B - control air testing is specified but not needed?			
M-41	RHM	spec 232113	2.1.A&B - types L and K? 2.6.F is not needed. Below grade piping is not specified but should be.			
M-42	RHM	spec 232300	2.2 - several of the listed specialties are applicable only to much larger split systems, not the mini ductless split systems scheduled. Edit as appropriate to project. 3.1.A - soldered joints are usually considered inappropriate for refrigerant piping - confirm this is an acceptable application. Are flared final connections allowed? 3.3.D - most piping is exposed - consider adding / requiring drawn temper tubing orthogonal to building for exposed piping in lieu of specified annealed flex line sets. 3.4.D&F - are these applicable?			
M-43	RHM	spec 233113	2.1.A and 2.2.A - static pressure class is not indicated. 2.3.B.2 - exposed duct mill phosphating should reference ASTM A2092. 2.3.D - tie rods are not required or advised for the small duct shown. 2.4.D solvent based sealant - consider deleting due to toxicity of volatile components. 2.5, 2.6, 3.5 and 3.6 - delete to avoid conflicts and instead reference appropriate spec sections. 3.9.C - is this cleanliness testing equipment available on site? 3.10 - is full cleaning of all new duct required? This may be excessive. Note NADCA 1992 (3.10.E.5) is very outdated - refer to latest edition of the NADCA ACR (2006?).			

Design Review
OFFICE BUILDINGS – BUILDING 2
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-44	RHM	spec 233300	2.2.A.2 - refer to ASTM A2092. 2.2.D - not required. 2.4.A&.B - Which are required and where? Consider adding locations required to 3.1.D. 2.4.B & D aluminum dampers are used for aluminum duct typically and may be deleted. 2.5 - control dampers are specified in section 230900;2.10 - delete from one section or the other (prefer to leave under controls and reference only in this section). 2.6.B - confirm dynamic type are required. 2.9.C and 3.1.H.4 - pressure relief access doors are very costly and are probably not needed in duct this small due to lack of dynamic pressure surge upon damper closure. Verify if this is a true requirement prior to specifying this. Confirm other specialized accessories are required.			
M-44	RHM	spec 233423	2.2.F - How many of these accessories are needed? (add list to schedule?)			
M-45	RHM	spec 233713	General - delete unused types.			
M-46	RHM	spec 234100	Air filtration section is missing. Confirm it is not required or add to spec.			
M-47	RHM	spec 237430	Are these needed for phase two?			
M-48	RHM	spec 238126	2.2.A.6 - provide for auxiliary condensate control system in accordance with IMC 3.07.2.3			
M-49	RHM	spec 238220	Are these needed for phase two?			
M-50	RHM	spec 238239	2.1.I - there appear to be no hot water unit heaters on project. Delete clause if not needed. Add electric wall mounted unit heaters.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
PLUMBING COMMENTS						
P-1	DCG	Plumbing Calculations	Add the requirement for recirculation pump in Design Analysis (DA)			
P-2	DCG	Plumbing Calculations	Provide justification for recirculation pump sizing is based on 1 gpm for every 20 fixture units. Where does this sizing method come from?			
P-3	DCG	2 P-101	Provide pipe size and identification (ID) between the detail bubbles.			
P-4	DCG	2 P-401	Detail 1: Identify (ID) riser pipe by door at bottom right corner of Mech 040. ID sizes of water mains exiting the room.			
P-5	DCG	2 P-401	Detail 2: ID pipe type and sizes for mains			
P-6	DCG	2 P-401	Detail 3: ID pipe type and sizes for mains. ID pipe in Jan 038 near fixture P-4. Is this line exposed?			
P-7	DCG	2 P-401	Detail 5: ID pipe in Jan 139 near fixture P-4. Is this line exposed?			
P-8	DCG	2 P-701	Detail 1: Floor drains in Mech 032, ID 15 CW from trap primer on 2- 100 FD-1			
P-9	DCG	2 P-701	Detail 2: Floor drains in Mens Toilet 039 and 141, ID 15 CW from trap primer on 3- 80 FD-2			
P-10	DCG	2 P-702	Detail 1: Amend water heater to match detail on 2 P-501. At location of connection between HW and HWR, at BV, add balance valve and check valve on HWR line.			
P-11	DCG	2 P-702	Detail 2: At location of connection between HW and HWR, at BV, add balance valve and check valve on HWR line.			
P-12	DCG	2 P-501	Detail 1: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-13	DCG	2 P-501	Detail 3: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-14	DCG	2 P-501	Detail 5: Add thermometer at outlet of mixing valve? On hot water return line. Add unions at connection to water heater. Add union and shutoff valve on line to expansion tank.			
P-15	DCG	Specifications	Section 220523: Purge out valves not wanted for this project (for example: Do you want gate or globe valves?)			
P-16	DCG	Specifications	Section 220529: Purge out hanger materials not wanted for this project (for example fiberglass hangers or struts?)			
P-17	DCG	Specifications	Section 220719: Purge out insulation materials not wanted for this project (for example mastics or jacketing?)			
P-18	DCG	Specifications	Section 221116: Purge out piping materials not wanted for this project (for example PVC or PP piping?)			
P-19	DCG	Specifications	Section 221119: 2.3, A: Where installed? 2.4, A: Where installed? 2.5: Select which balance valve for this project. 2.6, A: Where installed?			
P-20	DCG	Specifications	Section 221316: Purge out piping materials not wanted for this project (for example ABS piping?)			



Design Review
OFFICE BUILDINGS – BUILDING 2
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
P-21	DCG	Specifications	Section 22132: 2.2: Select which type of oil interceptor you want for this project			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ELECTRICAL COMMENTS						
E-1	DOSS	2 E-001	Add "ECB" and the symbol for "ECB" to symbols and abbreviations			
E-2	DOSS	2 E-002	General note 5. Remove sentence "All electrical local...shall be white UNO." and make it its own note.			
E-3	DOSS	2 E-002	General Note 5 states MC cable can be used for all branch circuit wiring except the homeruns. General note 9 states all raceways are surface mounted from the panelboard to the utilization devices, UNO. Is it the intent to install MC cable exposed as these notes infer?			
E-4	DOSS	2 E-101	Consider adding exit light over door into Stair 2 from the Corridor			
E-5	DOSS	2 E-101	Consider adding exit light at bottom of Stair 1 to lead people away from Courtyard door			
E-6	DOSS	2 E-101	Consider adding exit light over door leading from Courtyard to Entry Lobby/Reception			
E-7	DOSS	2 E-102	Consider adding exit light over door into Stair 2 from the Corridor			
E-8	DOSS	2 E-102	Consider adding exit light in the corridor directing people to Stair 2			
E-9	DOSS	2 E-105	Consider adding a light switch and lighting for the attic			
E-10	DOSS	2 E-111	Notes on right side of sheet for underground conduit state to provide pull strings which is in conflict with Partial One Line Diagram - Building 2 on drawing 2 E-701			
E-11	DOSS	2 E-111	Add power in Mechanical Room for ETP-1			
E-12	DOSS	2 E-501	Panel schedule 1-PP1A indicates main lugs only while Partial One Line Diagram - Building 2 indicates a main breaker			
E-13	DOSS	2 E-501	Panel schedule G-PP1B does not include a 30A2P breaker or load for the Guard Tower Building feeder shown in the Partial One Line Diagram - Building 2 on drawing 2 E-701			
E-14	DOSS	2 E-502	Light fixture schedule type F4 fixture catalog number is for a T5 lamp though T8 lamp is scheduled in the lamp column			
E-15	DOSS	2 E-502	No fixture type F7 is scheduled though it is shown in the courtyard			
E-16	DOSS	2 E-502	Light fixture cut sheets in the DA are not labeled, wrong cut sheets are included and not all fixtures are included			
E-17	DOSS	2 E-502	Mechanical Equipment Connection Schedule, verify if motor controllers are required for the exhaust fans			
E-18	DOSS	2 E-701	Partial One Line Diagram - Building 2, panelboard 1-PP1A is shown with a main breaker but the panelboard schedule indicates main lugs			
E-19	DOSS	2 E-701	Partial One Line Diagram - Building 2, incoming feeder is type 28 but the feeder schedule does not include a type 28			
E-20	DOSS	2 E-701	Partial One Line Diagram - Building 2, the feeder to the Guard Tower does not indicate a size			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
E-21	DOSS	2 E-701	There are no system grounding/bonding details			
E-22	DOSS	2 EG-101	Verify that the air terminal spacing at the perimeter should be a maximum of 7.6 meters			
E-23	DOSS	2 EG-101	Verify that the spacing between down conductors does not exceed 30 meters			
E-24	DOSS	Spec 260519	Add metric wire sizes along with AWG wire sizes			
E-25	DOSS	Spec 260519	Part 3 infers that MC cables can be installed exposed			
E-26	DOSS	Spec 260526	Add metric wire sizes along with AWG wire sizes			
E-27	DOSS	Spec 260529	Part 3.1 C. is not edited			
E-28	DOSS	Spec 260533	Part 3.2 A. Delete "Comply with NECA 102 for aluminum conduits" since aluminum is not specified			
E-29	DOSS	Spec 260533	Part 3.2 F. Define "for which few bends are allowed"			
E-30	DOSS	Spec 260536	Confirm specification section is not required			
E-31	DOSS	Spec 260553	Part 3.2 J. 1. Delete sentence restricting use of underground warning tape			
E-32	DOSS	Spec 260553	Part 3.2 O. 1. a. is not edited			
E-33	DOSS	Spec 260573	Part 1.5 b. 1. requires licensing in the state where Project is located, modify requirement			
E-34	DOSS	Spec 262416	Part 1.2 A. 3. delete load centers from list			
E-35	DOSS	Spec 262713	Confirm specification section is not required			
E-36	DOSS	Spec 262726	Add metric wire sizes along with AWG wire sizes			
E-37	DOSS	Spec 262726	Part 3.4 B. 1. Modify voltages for 220 volts			
E-38	DOSS	Spec 265100	Part 2.8 C. delete self luminous signs			
E-39	DOSS	Spec 265600	Confirm specification section is not required			
E-40	DOSS	DA	The DA does not include any voltage drop calculations, short circuit calculations or lighting calculations			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
COMMUNICATIONS COMMENTS						
C-1	JLB	DA	The telecommunications DA is one paragraph which has been used for all buildings reviewed. It is not specific to any one building. What is said in the DA regarding telecommunications appears to be true with the exception of protectors for cabling. No specification and or drawing detail contained any information regarding protectors. Protectors will need to be provided and should be specified.			
C-2	JLB	General Reference	No Telecommunications site drawings and/or specifications were provided for this review.			
C-3	JLB	2 E-001	Telecommunications Symbols: The first symbols on this page indicates an arrow with a tag that indicates the corresponding telecommunications room that the conduit is associated with. This symbol is not used on any of the other drawings.			
C-4	JLB	2 E-001	Telecommunications Symbols: None of the outlet symbols give quantities of cables therefore these outlet symbols should be identified on drawing 1 E-802 next to the corresponding "typical port outlet." Without this information the correct cable counts for material quantities and pathway fills cannot be determined.			
C-5	JLB	2 E-001	Telecommunications Symbols: A solid triangle symbol represents a telephone outlet according to the symbol definition. If this is correct then the mounting height should be reviewed as telephone outlets are normally mounted at 1219mm AFF per code.			
C-6	JLB	2 E-001	Telecommunications Symbols: An encircled JT symbolizes a surface mounted J/Box for tele/data. It is not clear whether or not this is intended to be an empty pathway or if this symbol represents a tele/data outlet. If this symbol is intended to represent a tele/data outlet then quantities or outlet type needs to be identified along with the encircled JT symbol.			
C-7	JLB	2 E-001	Telecommunications Symbols: The symbol for TGB is not indicated on any other drawings. This symbol should appear in the telecommunications rooms.			
C-8	JLB	2 E-001	Telecommunications Symbols: The ladder cable tray size indicated on this drawing is in conflict with the size specified in Div 27 11 00.			
C-9	JLB	2 E-001	Communications rack/ cabinet symbols should be indicated in the list as they are shown on the layout drawings			
C-10	JLB	3 E-001	Coordinate with Mechanical Engineer to determine whether or not plenum type telecommunications cabling will be required.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
C-11	JLB	2 T-101	The Cable tray should be extended to the communications rack/cabinet in the Telecommunication room			
C-12	JLB	2 T-101	No communications pathways are shown between the ground floor telecommunications room and the first floor telecommunications room.			
C-13	JLB	2 T-101	No pathways are shown connecting the Telecommunications room on the ground floor to the Telecommunications room on the first floor.			
C-14	JLB	2 T-101	Intra building back bone cabling will be required to connect the ground and first floor Telecommunications rooms. Details showing termination details, location and necessary equipment should also be provided.			
C-15	JLB	2 T-102	Communications outlet inside TR is shown in conflict with the communications rack.			
C-16	JLB	2 E-802	Conduit sizes for telecommunications outlets need to be coordinated. Several sizes are indicated throughout the design documents. Ex Typical outlet details indicate 25mm conduits. Symbols page indicates 27mm conduits. Detail 6 on E-802 indicates 20mm conduits. Div 27 05 28 indicates min 21mm conduits. (Fill ratios need to be considered as well)			
C-17	JLB	2 E-802	Detail 2: Indicates a standard 112.5mm square double gang outlet box however a single gang outlet box is depicted.			
C-18	JLB	2 E-802	Detail 6: Indicates Cat 3 cabling is used for voice. Coordinate with other details and spec's as cat 3 cabling is not mentioned elsewhere.			
C-19	JLB	2 E-802	Detail 7: Indicates telecom raceway installation. Check TIA/EIA 569-A and or 569-B standards. Change indirection of tele/data cabling is not allowed within a pull box. The Detail indicates that a daisy chain method of distribution will be used. If this format is to be used the feed conduits may need to be upsized to accommodate the cabling from multiple outlets.			
C-20	JLB	2 E-802	Provide detail showing the Intra building backbone cabling logical/one line.			
C-21	JLB	Div 27 05 28	2.6 J: Device box size in conflict with size indicated on drawing E-802			
C-22	JLB	Div 27 05 28	3.2-I Coordinate this section with notes on the drawings referring to embedding conduits in the slab. Make sure that they don't contradict each other.			
C-23	JLB	Div 27 05 28	Consolidate 3.2-F into 3.2-S as F leads you to believe that only two 90 degree bends are allowed.			
C-24	JLB	Div 27 05 36	2.6 A: Select testing standards			
C-25	JLB	Div 27 05 36	Remove 3.1 K and J: single rail cable trays are not being used nor are buss assemblies.			
C-26	JLB	Div 27 05 36	3.5 A Select or remove bracketed selection.			

Design Review
OFFICE BUILDINGS – BUILDING 2
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
C-27	JLB	Div 27 10 00	2.2 A Coordinate plywood back board size on drawings with this spec Drawings say 21mm and specs indicate 19mm			
C-28	JLB	Div 27 10 00	2.2 A Section 061000 Rough carpentry is not listed with the table of contents for this project. Change spec reference or provide 061000			
C-29	JLB	Div 27 10 00	2.5 B 2: coordinate TGB size indicated on drawings with the one specified here.			
C-30	JLB	Div 27 13 00	1.2 A Remove pathways in its entirety from this spec. Include any pertinent information into Div 27 05 28 communications pathway spec..			
C-31	JLB	Div 27 13 00	2.2. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-32	JLB	Div 27 13 00	2.1 D coordinate outlet box size with drawings and other specs as there are different sizes shown on each.			
C-33	JLB	Div 27 13 00	Consolidate back boards into Div 27 11 00. Its not recommended to specify the same thing in multiple locations.			
C-34		Div 27 13 00	2.3 B Remove the brackets or delete the selection for overall jacket.			
C-35	JLB	Div 27 13 00	There is no specification for fiber optical cabling. Only installation requirements. Review design and determine if and where Fiber Optical cabling will be necessary.			
C-36	JLB	Div 27 15 00	1.2 A Remove Pathways from this spec. Pathways are outlined in Div 27 05 28.			
C-37	JLB	Div 27 15 00	2.3. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-38	JLB	Div 27 15 00	2.5 B: Remove " formed into 25-pair, binder groups " This is not a characteristic of four pair cabling.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
FIRE ALARM COMMENTS						
FA-1	DJS	Specifications	There are no fire alarm system specifications			
FA-2	DJS	2 FA-001	Consider adding a generic fire alarm system wiring diagram			
FA-3	DJS	2 FA-101	Consider adding a horn/strobe at the south end of Corridor 012			
FA-4	DJS	2 FA-101	Consider adding a horn/strobe at the north end of Corridor 017			
FA-5	DJS	2 FA-102	Consider adding a 2 - way communication at the top of Stair 2			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
STRUCTURAL COMMENTS						
S-1	RB	S-001	In the Structural Abbreviations, AISC should read "Construction" instead of "Contractors".			
S-2	RB	S-002	Cast-in place Concrete, note 27, the reinforcing clearance for "concrete cast against and permanently exposed to earth" should be 75mm per ACI(M).			
S-3	RB	S-002	Steel Deck note 3; The roof deck appears to be 3"x22 gage, Type N deck. Please verify that the minimum section properties (S & I) are correct. They appear too low.			
S-4	RB	S-101	Are the column footings centered on the Grid Lines? Some columns are offset from the grid lines. Please add notes or dimensions to clarify the locations of the footings under irregular columns.			
S-5	RB	S-101 & S-103	Along grids 2 and 8, The shear walls are shown as 250 concrete walls, centered on the grid lines. On Arch dwg's A-101 and A-102, they are shown as 150 CMU partitions, aligned on the inboard face of the columns. Please coordinate.			
S-6	RB	S-101	A note near grid lines E8, calls for 150 concrete curbs around the "eastern style water closets". Coordinate with the architectural and plumbing drawings. They don't show any curbs around the floor openings.			
S-7	RB	S-101	At Stair 2, near grid 9. there is a door opening shown near grid C. It should be near grid D. Coordinate with Arch drawings.			
S-8	RB	S-101	The plumbing drawings show a 100mm sanitary line running adjacent to grid 8 and exiting the bldg at grid A. Verify that the floor clean out near col E8 and the 100mm line will fit on top of the shear wall footings. (300 below T/slab)			
S-9	RB	S-102	At Stair 1, there should be a window opening in the wall near col C3. See Arch dwg A-401.			
S-10	RB	S-102	At stair 2, there should not be an opening near col C9. See Arch dwg A-402.			
S-11	RB	S-103	At the roof hatch near col D9, coordinate the opening dimensions with Arch dwg A-515.			
S-12	RB	S-104	There should be an additional line of embedment plates at 1585mm south of grid D, from grid 3 to 7. See sect 1/S-532.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
S-13	RB	S-502	See sections 10 and 12. The top of the tie beam is at (-300mm) at the interior footings and at (-630mm) at the exterior footings. Does the tie beam step down between footings? Please clarify.			
S-14	RB	S-503	At section 3, the designations "wall/column" and "stem wall/column" imply that a pipe could run thru the column, above the footing. This should not be permitted. Please clarify that the pipe runs thru the wall and not the column.			
S-15	RB	S-513	At Detail 5, please call out the typical wall horizontal reinforcement.			
S-16	RB	S-513	At Detail 7, the lintel section width should be 150, not 200. Coordinate with Arch. I did not find any 200mm partitions.			
S-17	RB	S-514	Does the concrete wall reinforcing extend into/thru the concrete columns? Please provide details to clarify.			
S-18	RB	S-531	At Detail 2, there should be a concrete beam below the Steel post and embed plate.			
S-19	RB	S-551	At Plan Detail 1, it would be helpful to show the column line designations.			
S-20	RB	Calculations	The calculations for bldg's 2 and 3 do not indicate the seismic design factors used by the computer program in the program input. Please verify that the factors used agree with those shown on the drawings.			

Design Review
OFFICE BUILDINGS – BUILDING 3
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

<u>Excel Worksheet</u>		
<u>Name</u>	<u>Description</u>	<u>Printed Page Number</u>
Index Sheet	Excel Workbook Index	1
Architectural	Architectural Drawing Comments	2-6
Mechanical	Mechanical Drawing Comments	7-11
Plumbing	Plumbing Comments	12
Electrical	Electrical Drawing Comments	13-14
Communications	Communications Comments	15-17
Fire Alarm	Fire Alarm Comments	18
Structural	Structural Drawing Comments	19-20

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ARCHITECTURAL DRAWINGS						
A-1	KCB	05 52 13 and 05 73 00	Both of these spec sections have perforated metal in them and they call for 2 different patterns. Are they both needed? If so make sure to call out on the drawings which one is used where.			
A-2	KCB	Spec 07 21 00	Is there any foam plastic insulation that is not part of the EIFS system? If not remove from this spec section as the EIFS insulation is in the EIFS spec.			
A-3	KCB	Spec 07 41 13	Under performance requirements the metal soffit panels are not listed. Coordinate with the structural engineer to see what loads the soffits will need to resist and make sure they are listed in this specification.			
A-4	KCB	Spec 07 41 13	Make sure roof load requirements match the structural notes, it appears you are calling for different snow load requirements (check others too).			
A-5	KCB	Spec 07 41 13 and 07 42 13	There are 2 different levels of galvanization required under miscellaneous metal framing for these 2 spec sections. Shouldn't they be the same? Which one is more readily available in-country?			
A-6	KCB	Specs 07 42 13 and 08 90 00	Which of these is used where? - it is not clear.			
A-7	KCB	Spec 08 41 13	Paragraph 2.6, L. The maximum height listed 13mm is technically higher than 1/2" (ADA) and it differs from what is listed in 08 71 11 (12.7mm).			
A-8	KCB	Spec 08 80 00	Fire rated glazing is included in this specification however based on the drawings it does not appear there is a need for any in Phase 1. Is it needed for Phase 2?			
A-9	KCB	Spec 08 80 00	Where are glass types called out on the drawings? What is the intent of including delegated design since specific design criteria has not been provided?			
A-10	KCB	Spec 09 93 00	Where is this used? I do not see it called out on the drawings as either a wall finish, floor finish or exterior finish. If it is SC on the Finish Schedule make that clear.			
A-11	KCB	Spec 10 21 13	You have 2 specs with 2 different materials but neither one is called out on the drawings.			
A-12	KCB	Spec 10 44 13 and 10 44 16	Are all fire extinguishers in cabinets or are some bracket mounted? If they are in cabinets add detail to the drawing set showing how that works in the typical wall.			
A-13	KCB	Spec 10 44 13	Is there any need for 2 hour cabinets?			
A-14	KCB	Spec 10 82 13	Is this specification for building mounted sunshades? I do not see any sunshades on the architectural drawings.			
A-15	KCB	Spec 12 36 61	Paragraph 2.2, A, 4. - Color is indicated on Materials Index on the drawings.			
A-16	KCB	Drawings	Throughout the set there is inconsistent text size, sheet to sheet and detail to detail.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-17	KCB	LS-001	Egress Summary - Ground Level chart - Egress width provided (horiz), assuming this is referring to the corridor widths the corridors are dimensioned 1475MM versus the 2547MM in this chart			
A-18	KCB	LS-001	In the OPENING PROTECTIVES paragraph be clear on the types of rated partitions. Corridors are 1 hour fire partitions, stairs exit enclosures are 1 hour fire barriers that require 60 minute doors			
A-19	KCB	LS-001	In paragraph "OTHER FIRE RESISTANCE RATED SEPARATION" storage rooms over 100 SF (9.29 SM) should be listed as 1 hour per table 508.2 INCIDENTAL USE AREAS. Storage rooms 056 and 156 are over 9.29 SM and need to be separated with a 1 hour fire barrier.			
A-20	KCB	LS-001	Add a paragraph about accessibility.			
A-21	KCB	LS-101	The LEGEND needs to distinguish between 1 hour fire partitions and 1 hour fire barriers.			
A-22	KCB	LS-101	Stair 1 needs to be enclosed per Section 1020 of the IBC 2006.			
A-23	KCB	LS-101	The exit through Stair 2 doesn't discharge directly to the exterior as stated in Paragraph 4.3 on LS-001.			
A-24	KCB	LS-102	The LEGEND needs to distinguish between 1 hour fire partitions and 1 hour fire barriers.			
A-25	KCB	LS-102	Stair 1 needs to be enclosed per Section 1020 of the IBC 2006.			
A-26	KCB	A-001	There are abbreviations used on the drawings that are not coordinated with the architectural abbreviations list including but not limited to the following: ELEV, TLTS, M, MM, LP, HP.			
A-27	KCB	A-101	When Stair 1 becomes enclosed can exit from courtyard go through the stair?			
A-28	KCB	A-102	Coordinate callouts with room tags - room tag in open office 142 is hard to read.			
A-29	KCB	A-104	Consider showing air terminals on this roof plan for coordination purposes.			
A-30	KCB	A-104	The leader conflicts with the steel roof assembly note.			
A-31	KCB	A-111	Consider showing all items that will be mounted on or hung from the ceiling on your reflected ceiling plan. These can be excellent coordination drawings to find conflicts between all trades.			
A-32	KCB	A-112	Consider showing all items that will be mounted on or hung from the ceiling on your reflected ceiling plan. These can be excellent coordination drawings to find conflicts between all trades.			
A-33	KCB	A-201	Draw courtyard elevations so that there is a place to tag the windows.			
A-34	KCB	A-201	Elevation 2 - Have the connections between the galvanized channels around the corrugated metal panels been designed? They are not drawn on the structural drawings.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-35	KCB	A-202	On Drawing S-105 there is a structural NOTE which is pointing to the wall between col lines 5 and 6 that says "LOUVER OPENING BELOW (SEE ARCH)". This drawing is showing all those areas as corrugated panels. Who is correct?			
A-36	KCB	A-202	Elevation 1 and 2 - Have the connections between the galvanized channels around the corrugated metal panels been designed? They are not drawn on the structural drawings.			
A-37	KCB	A-301	Refer to drawings E-103 - There is a note that says ceiling fans are mounted at 900MM below the ceiling slab, based on the TOS and slab thickness this put the fans at 2050MM AFF, this seems low. Consider having electrical raise them up.			
A-38	KCB	A-301	Building Section 1 - Stair 1 is incorrectly labeled as Stair 2.			
A-39	KCB	A-301	Consider tagging the courtyard windows on this sheet.			
A-40	KCB	A-351	Tag datums on wall sections, typ.			
A-41	KCB	A-351	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-42	KCB	A-351	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-43	KCB	A-351	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-44	KCB	A-352	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-45	KCB	A-352	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-46	KCB	A-352	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-47	KCB	A-353	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-48	KCB	A-353	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-49	KCB	A-353	Consider using wipe out where detail tags overlap drawing information.			
A-50	KCB	A-353	Wall Sections 1 and 3 - There is missing gravel hatch near the footing. Is there supposed to be a perimeter drain there?			
A-51	KCB	A-354	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-52	KCB	A-354	At the notes pointing to the roof camber there is information that needs to be filled in.			
A-53	KCB	A-354	The wall section drawing title needs to be moved over to the left.			
A-54	KCB	A-354	Wall Section 2 - is the steel channel that is acting as a gutter sloped for positive drainage?			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-55	KCB	A-401	The concrete beams are missing from these sections, coordinate with structural drawing S-541.			
A-56	KCB	A-402	The concrete beams are missing from these sections, coordinate with structural drawing S-541.			
A-57	KCB	A-402	The fire alarm drawings for BLDG 1 include 2 way communication to an area of refuge in Stair 3. This is required for this building also. The Fire Alarm drawings are not showing this but they should. Coordinate with the fire protection engineer or electrical engineer to get this covered.			
A-58	KCB	A-403	It appears that toilet accessory T-3B conflicts with the grab bars and the hand held bidet in the accessible toilet stall.			
A-59	KCB	A-403	Dimension the location of the water closets and sinks, plumbing does not.			
A-60	KCB	A-404	Who is showing how the floor slab slopes to the floor drains? Plumbing detail 3/P-501 refers back to arch drawings for "exact requirements".			
A-61	KCB	A-404	Show floor drains and toilet partitions.			
A-62	KCB	A-511	Hatch cut through steel for clarity.			
A-63	KCB	A-511	Add drawing title to bottom left detail (Detail 4)			
A-64	KCB	A-511	Details 3 and 4 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-65	KCB	A-511	Detail 3 - show insulation continuing to the cut line.			
A-66	KCB	A-511	Detail 3 - fix leader that points to the C200 channel it is pointing to the insulation.			
A-67	KCB	A-512	Hatch cut through steel for clarity.			
A-68	KCB	A-512	Details 2 and 4 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-69	KCB	A-513	Hatch cut through steel for clarity.			
A-70	KCB	A-514	Hatch cut through steel for clarity.			
A-71	KCB	A-515	Some of the detail titles are missing and one is conflicting with detail notes.			
A-72	KCB	A-515	The note at the insulation on this sheet does not match the insulation note on the wall sections.			
A-73	KCB	A-602	At door 015 - The fire rating is listed as 20 minutes but it should be 60 minutes per table 715.4 (doors in fire barriers specifically exit enclosures).			
A-74	KCB	A-603	Refer to S-513 and S-514 - The structural drawings show control joints in concrete and where CMU meets concrete but they do not appear to address control joints within CMU walls. A detail and /or note need to be added somewhere.			
A-75	KCB	A-603	Coordinate with MEP to get thru-wall fire stop penetration details shown in the set with UL Design #'s.			

Design Review
OFFICE BUILDINGS – BUILDING 3
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-76	KCB	A-604	Refer to S-101, S-102 and S-103 - Plan Notes: says refer to arch drawings for slab finish requirements. I do not see where that arch drawings addresses this especially if this is referring to float vs. trowel vs. broom finish, coordinate. Spec section 07 18 00 (attic waterproofing) does list specific requirements.			
A-77	KCB	A-604	Finish schedule - what does SC stand for (sealed concrete, stained concrete)? It is not on the materials index.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
MECHANICAL COMMENTS						
M-1	CSR	2 M-001	Add to MECHANICAL ABBREVIATIONS: DU - DOOR UNDERCUT			
M-2	RHM	2 M-101	It is unlikely that 608l/s can leak through one double and one single leaf exterior door to provide makeup air for all exhaust systems. Provide for tempered make-up air to maintain design flow rates at reasonable pressure drop from interior to exterior.			
M-3	CSR	2 M-101	Evaluate heating capacity of fin tube radiation in the following rooms which have less than 12 BTU/hr per SF of floor space: Conference 023, Open Office 030, Open Office 050, and Conference 053. Note that on pages 45 and 46 of the Design Analysis heating loads total 153,000 Btu/hr and 155,378 Btu/hr on ground and first floor respectively. This corresponds to an average of load of 12 Btu/hr per SF of floor space overall. The above rooms have radiation with the capacity of about 10 Btu/hr per sf with roof loads, and several windows.			
M-4	CSR	2 M-101	For clarity, indicate or note runout locations; supply and return down in exterior corners and risers up to first level units on the inboard take-offs.			
M-5	CSR	2 M-101	Consider reverse return piping layout since the floor plan would require minimum extra pipe to do so. This would reduce overall pump head requirements, simplify balancing, and minimize problems with getting flow to the end units.			
M-6	CSR	2 M-101	In MECH 040, indicate that pipe rises and runs in space above the ceiling.			
M-7	CSR	2 M-101	Confirm that self-contained thermostatic valves are appropriate for rooms with multiple elements. If remote thermostat and control valves as specified are needed, show wall thermostats to control two-way fin tube radiation valves.			
M-8	CSR	2 M-101	Verify that natural ventilation is acceptable to meet minimum outside air rates in accordance with the 2006 International Mechanical Code.			
M-9	CSR	2 M-101	Consider upsizing 2" (50 mm) building mains to 65 mm. Total building flow is about 48 gpm and at 2", friction loss is over 4 feet per 100 feet of pipe.			
M-10	CSR	2 M-101	Consider addition of fin tube radiation to STAIR 1 on the ground level; stair currently has no heat provided.			
M-11	RHM	2 M-101	Provide for thermal expansion movement in straight runs of piping over 25m (80ft) long. This condition exists in 8 locations.			
M-12	CSR	2 M-102	See Notes M-2, M-4, M-6 above for M-101.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-13	CSR	2 M-103	Upsize active exhaust air louver to at least 300mm (12") to accommodate 1300 CFM exhaust through a louver with free area of 40% or less to maintain a maximum of 900 fpm.			
M-14	CSR	2 M-501	Fan Schedule- 2-EF-1 and 2-EF-3: change airflow to 164 L/s and 347 CFM to reflect 140+24 CFM noted for exhaust grilles.			
M-15	CSR	2 M-501	Fan Schedule- 2-EF-2 and 2-EF-4: change airflow to 140 L/s and 300 CFM to reflect 140 CFM noted for exhaust grilles.			
M-16	CSR	2 M-501	Fan Schedule- Add a Note 4. to read "Provide a speed controller at the fan to adjust airflow to design L/S (CFM)." Add Note 4. to "Remarks".			
M-17	CSR	2 M-501	Hot Water Fin Tube Radiator Schedule- For both FT-1 and FT-2 Rating Capacity, change values to 0.577 (metric) and 0.600 (i-p) to reflect KW/M and MBH/FT labels.			
M-18	CSR	2 M-501	Hot Water Fin Tube Radiator Schedule- Add a column for "ENCLOSURE HEIGHT" and a value of 200mm (8") for both FT-1 and FT-2.			
M-19	CSR	2 M-501	Hot Water Fin Tube Radiator Schedule- Consider upsizing flow to 0.5 gpm (0.032 L/S). Laminar flow will develop below this point, significantly decreasing heat capacity. Pipe sizes may have to be adjusted.			
M-20	CSR	2 M-501	Detail 2- Add a manual, high capacity air vent at the top of the system, somewhere above a First Level unit, in addition to the incoming automatic air vent.			
M-21	CSR	2 M-501	Detail 4- Show thermostat symbol for control of modulating valve according to Sequence of Operation.			
M-22	CSR	2 M-501	Add Piping Hanging Detail.			
M-23	RHM	Design Analysis Appendix D.1. Cut Sheets	Provide cut sheets for registers and grilles.			
M-24	RHM	Design Analysis Appendix D.1. Cut Sheets	Highlight mechanical cut sheets with specific selections similar to plumbing cut sheets.			
M-25	CSR	BOQ	Mech. 11.1, Item 1 should read "164 L/S" and Item 2 should read "140 L/S".			
M-26	CSR	TABLE OF CONTENTS	Include section 23 07 13 - Duct Insulation in Phase I manual.			
M-27	CSR	Specification 23 05 53 - Identification for HVAC Piping and Equipment.	Provide specification for identification of buried pipe.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-28	CSR	Specification 23 07 19 - HVAC Piping Insulation	Provide specification for insulation of underground piping for HWS/HWR pipe mains. Provide provisions for pipe movement at expansion loops.			
M-29	RHM	Mech details	Provide detail for refrigerant piping wall penetrations.			
M-30	RHM	spec 230516	Specify type of thermal expansion compensators required and edit out remainder. Preferred system includes flexible hose loops to avoid pressure thrust load calculations for anchors.			
M-31	RHM	spec 230517	Clarify if sleeve seal fittings are required at refrigerant piping penetrations of exterior walls. If not, define this condition in spec and on drawings.			
M-32	RHM	spec 230518	Paragraph 3.1.B.1: clarify which escutcheons are to be used on this project and where, edit out the unused remainder.			
M-33	RHM	spec 230519	Where are venturi flowmeters used? Refer to location schedule in 3.1.R: 1) Define hydronic zone - this is either every FTR control valve which defines the heating zones, one set per building as shown on details, or it could be there is only one zone. (hydronic reset schedule?) 3) There are no "air handling units" - are thermometers required at all duct coils? 4) There is not thermal storage tank - clarify. 5) Are outside, return, supply, and mixed air ducts applicable to project?			
M-34	RHM	spec 230523	2.2 - three piece ball valves may be excessive for this service. 2.3 - Iron body ball valves may be excessive for this service. 2.5 - High performance butterfly valves are excessive for this service. 2.12 - Chainwheels appear to not be needed.			
M-35	RHM	spec 230529	Edit to remove hangars and supports not needed in this project (especially application schedules in 3.6). Paragraph 3.1.M: Pipe slopes are not indicated on drawings - are they in spec?			
M-36	RHM	spec 230548	Confirm that an Ip of 1.5 required, as this raises costs for restraint system substantially. Equipment bases specified in 2.2 do not appear on drawings; if they are required, show on drawings and include in Part 3 execution. 2.3.D - cables should be specified as pre-stretched cables as part of UL listed or OSHPOD approved assemblies (not allowing installer to assemble from loose miscellaneous components)? 3.7.A - Are air mounted systems being used? If not, delete.			
M-37	RHM	spec 230553	Include below grade pipe locator tape. 2.4 - Consider stencils or self adhesive labels in lieu of engraved labels for duct.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-38	RHM	spec 230593	Paragraph 1.5.A: NEBB certification (per 1.3.B) is equal to these. AABC and/or TABB certified firms may not be available locally. Consider the Afghan equal to these agencies by including a phrase similar to "or the local equivalent". Include details on setting up variable speed drive pumping systems that include the design frequency and wide open or barely non-overloading triple duty valve settings. 3.12 and 3.15.F are in conflict, as are a few other specific equipment testing requirements - clarify.			
M-39	RHM	specs 230713, 230716, and 230719	These three insulation specifications include insulation types and procedures in excess of that required for this project. The specifications should be edited by removing superfluous content. The piping insulation specification needs to include an appropriate below grade insulation system.			
M-40	RHM	spec 230900	2.5.B - averaging sensors should be long enough for four passes minimum, not simply specified as "915mm". They are available up to 5m length. 3.4.B - control air testing is specified but not needed?			
M-41	RHM	spec 232113	2.1.A&B - types L and K? 2.6.F is not needed. Below grade piping is not specified but should be.			
M-42	RHM	spec 232300	2.2 - several of the listed specialties are applicable only to much larger split systems, not the mini ductless split systems scheduled. Edit as appropriate to project. 3.1.A - soldered joints are usually considered inappropriate for refrigerant piping - confirm this is an acceptable application. Are flared final connections allowed? 3.3.D - most piping is exposed - consider adding / requiring drawn temper tubing orthogonal to building for exposed piping in lieu of specified annealed flex line sets. 3.4.D&F - are these applicable?			
M-43	RHM	spec 233113	2.1.A and 2.2.A - static pressure class is not indicated. 2.3.B.2 - exposed duct mill phosphating should reference ASTM A2092. 2.3.D - tie rods are not required or advised for the small duct shown. 2.4.D solvent based sealant - consider deleting due to toxicity of volatile components. 2.5, 2.6, 3.5 and 3.6 - delete to avoid conflicts and instead reference appropriate spec sections. 3.9.C - is this cleanliness testing equipment available on site? 3.10 - is full cleaning of all new duct required? This may be excessive. Note NADCA 1992 (3.10.E.5) is very outdated - refer to latest edition.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-44	RHM	spec 233300	2.2.A.2 - refer to ASTM A2092. 2.2.D - not required. 2.4.A&.B - Which are required and where? Consider adding locations required to 3.1.D. 2.4.B & D aluminum dampers are used for aluminum duct typically and may be deleted. 2.5 - control dampers are specified in section 230900; 2.10 - delete from one section or the other (prefer to leave under controls and reference only in this section). 2.6.B - confirm dynamic type are required. 2.9.C and 3.1.H.4 - pressure relief access doors are very costly and are probably not needed in duct this small due to lack of dynamic pressure surge upon damper closure. Verify if this is a true requirement prior to specifying this. Confirm other specialized accessories are required.			
M-44	RHM	spec 233423	2.2.F - How many of these accessories are needed? (add list to schedule?)			
M-45	RHM	spec 233713	General - delete unused types.			
M-46	RHM	spec 234100	Air filtration section is missing. Confirm it is not required or add to spec.			
M-47	RHM	spec 237430	Are these needed for phase two?			
M-48	RHM	spec 238126	2.2.A.6 - provide for auxiliary condensate control system in accordance with IMC 3.07.2.3			
M-49	RHM	spec 238220	Are these needed for phase two?			
M-50	RHM	spec 238239	2.1.I - there appear to be no hot water unit heaters on project. Delete clause if not needed. Add electric wall mounted unit heaters.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
PLUMBING COMMENTS						
P-1	DCG	Plumbing Calculations	Add the requirement for recirculation pump in Design Analysis (DA)			
P-2	DCG	Plumbing Calculations	Provide justification for recirculation pump sizing is based on 1 gpm for every 20 fixture units. Where does this sizing method come from?			
P-3	DCG	3 P-101	Provide pipe size and identification (ID) between the detail bubbles.			
P-4	DCG	3 P-401	Detail 1: Identify (ID) riser pipe by door at bottom right corner of Mech 042. ID pipe sizes on mains.			
P-5	DCG	3 P-401	Detail 2: ID pipe type and sizes for mains			
P-6	DCG	3 P-401	Detail 3: ID pipe type and sizes for mains. ID vent line in Jan 038. Is this line exposed in room?			
P-7	DCG	3 P-401	Detail 1: ID 15 CW from trap primer on 3- 80 FD-2 and 2- 100 FD-1 locations			
P-8	DCG	3 P-701	Detail 2: ID 15 CW from trap primer on 3- 80 FD-2 locations			
P-9	DCG	3 P-702	Detail 1: Amend water heater detail to match water heating detail on sheet 3 P-501. At location of connection between HW and HWR, at BV, add balance valve and check valve on HWR line			
P-10	DCG	3 P-703	Detail 2: At location of connection between HW and HWR, at BV, add balance valve and check valve on HWR line			
P-11	DCG	3 P-501	Detail 1: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-12	DCG	3 P-501	Detail 3: Remove piping type on cleanout as it doesn't necessarily match the specification.			
P-13	DCG	3 P-501	Detail 5: Add thermometer at outlet of mixing valve? On hot water return line. Add unions at connection to water heater. Add union and shutoff valve on line to expansion tank.			
P-14	DCG	Specifications	Section 220523: Purge out valves not wanted for this project (for example: Do you want gate or globe valves?)			
P-15	DCG	Specifications	Section 220529: Purge out hanger materials not wanted for this project (for example fiberglass hangers or struts?)			
P-16	DCG	Specifications	Section 220719: Purge out insulation materials not wanted for this project (for example mastics or jacketing?)			
P-17	DCG	Specifications	Section 221116: Purge out piping materials not wanted for this project (for example PVC or PP piping?)			
P-18	DCG	Specifications	Section 221119: 2.3, A: Where installed? 2.4, A: Where installed? 2.5: Select which balance valve for this project. 2.6, A: Where installed?			
P-19	DCG	Specifications	Section 221316: Purge out piping materials not wanted for this project (for example ABS piping?)			
P-20	DCG	Specifications	Section 22132: 2.2: Select which type of oil interceptor you want for this project			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ELECTRICAL COMMENTS						
E-1	DOSS	3 E-001	Add "ECB" and the symbol for "ECB" to symbols and abbreviations			
E-2	DOSS	3 E-002	General note 5. Remove sentence "All electrical local...shall be white UNO." and make it its own note.			
E-3	DOSS	3 E-002	General Note 5 states MC cable can be used for all branch circuit wiring except the homeruns. General note 9 states all raceways are surface mounted from the panelboard to the utilization devices, UNO. Is it the intent to install MC cable exposed as these notes infer?			
E-4	DOSS	3 E-101	Consider adding exit light over door into Stair 2 from the Corridor			
E-5	DOSS	3 E-101	Consider adding exit light at bottom of Stair 1 to lead people away from Courtyard door			
E-6	DOSS	3 E-101	Consider adding exit light over door leading from Courtyard to Entry Lobby/Reception			
E-7	DOSS	3 E-102	Consider adding exit light over door into Stair 2 from the Corridor			
E-8	DOSS	3 E-102	Consider adding exit light in the corridor directing people to Stair 2			
E-9	DOSS	3 E-111	Notes on left side of sheet for underground conduit state to provide pull strings which is in conflict with Partial One Line Diagram - Building 3 on drawing 3 E-701			
E-10	DOSS	3 E-111	Provide power connection for ETP-1 in the Mech. Rm.			
E-11	DOSS	3 E-113	Consider adding a light switch and lighting for the attic			
E-12	DOSS	3 E-501	Panel schedule G-PP1B does not have a 30A2P breaker nor the load for the Guard Tower feeder shown in the Partial One Line Diagram - Building 3			
E-13	DOSS	3 E-502	No fixture type F7 is scheduled though it is shown in the courtyard			
E-14	DOSS	3 E-502	Light fixture cut sheets in the DA are not labeled, wrong cut sheets are included and not all fixtures are included			
E-15	DOSS	3 E-502	Mechanical Equipment Connection Schedule, verify if motor controllers are required for the exhaust fans			
E-16	DOSS	3 E-701	Partial One Line Diagram - Building 3, incoming feeder is type 26 but the feeder schedule does not include a type 26			
E-17	DOSS	3 E-701	Partial One Line Diagram - Building 3, the feeder to the Guard Tower does not indicate a size			
E-18	DOSS	3 E-701	There are no system grounding/bonding details			
E-19	DOSS	3 EG-101	Verify that the air terminal spacing at the perimeter should be a maximum of 7.6 meters			
E-20	DOSS	3 EG-101	Verify that the spacing between down conductors does not exceed 30 meters			
E-21	DOSS	Spec 260519	Add metric wire sizes along with AWG wire sizes			
E-22	DOSS	Spec 260519	Part 3 infers that MC cables can be installed exposed			
E-23	DOSS	Spec 260526	Add metric wire sizes along with AWG wire sizes			
E-24	DOSS	Spec 260529	Part 3.1 C. is not edited			

Design Review
OFFICE BUILDINGS – BUILDING 3
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
E-25	DOSS	Spec 260533	Part 3.2 A. Delete "Comply with NECA 102 for aluminum conduits" since aluminum is not specified			
E-26	DOSS	Spec 260533	Part 3.2 F. Define "for which few bends are allowed"			
E-27	DOSS	Spec 260536	Confirm specification section is not required			
E-28	DOSS	Spec 260553	Part 3.2 J. 1. Delete sentence restricting use of underground warning tape			
E-29	DOSS	Spec 260553	Part 3.2 O. 1. a. is not edited			
E-30	DOSS	Spec 260573	Part 1.5 b. 1. requires licensing in the state where Project is located, modify requirement			
E-31	DOSS	Spec 262416	Part 1.2 A. 3. delete load centers from list			
E-32	DOSS	Spec 262713	Confirm specification section is not required			
E-33	DOSS	Spec 262726	Add metric wire sizes along with AWG wire sizes			
E-34	DOSS	Spec 262726	Part 3.4 B. 1. Modify voltages for 220 volts			
E-35	DOSS	Spec 265100	Part 2.8 C. delete self luminous signs			
E-36	DOSS	Spec 265600	Confirm specification section is not required			
E-37	DOSS	DA	The DA does not include any voltage drop calculations, short circuit calculations or lighting calculations			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
COMMUNICATIONS COMMENTS						
C-1	JLB	DA	The telecommunications DA is one paragraph which has been used for all buildings reviewed. It is not specific to any one building. What is said in the DA regarding telecommunications appears to be true with the exception of protectors for cabling. No specification and or drawing detail contained any information regarding protectors. Protectors will need to be provided and should be specified.			
C-2	JLB	General Reference	No Telecommunications site drawings and/or specifications were provided for this review.			
C-3	JLB	3 E-001	Telecommunications Symbols: The first symbols on this page indicates an arrow with a tag that indicates the corresponding telecommunications room that the conduit is associated with. This symbol is not used on any of the other drawings.			
C-4	JLB	3 E-001	Telecommunications Symbols: None of the outlet symbols give quantities of cables therefore these outlet symbols should be identified on drawing 1 E-802 next to the corresponding "typical port outlet." Without this information it correct cable counts for material quantities and pathway fills cannot be determined.			
C-5	JLB	3 E-001	Telecommunications Symbols: A solid triangle symbol represents a telephone outlet according to the symbol definition. If this is correct then the mounting height should be reviewed as telephone outlets are normally mounted at 1219mm AFF per code.			
C-6	JLB	3 E-001	Telecommunications Symbols: An encircled JT symbolizes a surface mounted J/Box for tele/data. It is not clear whether or not this intended to be an empty pathway or if this symbol represents a tele/data outlet. If this symbol is intended to represent a tele/data outlet then quantities or outlet type needs to be identified along with the encircled JT symbol.			
C-7	JLB	3 E-001	Telecommunications Symbols: The symbol for TGB is not indicated on any other drawings. This symbol should appear in the telecommunications rooms.			
C-8	JLB	3 E-001	Telecommunications Symbols: The ladder cable tray size indicated on this drawing is in conflict with the size specified in Div 27 11 00.			
C-9	JLB	3 E-001	Communications rack/cabinet symbols should be indicated in the list as they are shown on the layout drawings			
C-10	JLB	3 E-001	Coordinate with Mechanical Engineer to determine whether or not plenum type telecommunications cabling will be required.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
C-11	JLB	3 T-101	The Cable tray should be extended to the communications rack/cabinet in the Telecommunication room			
C-12	JLB	3 T-101	No communications pathways are shown between the ground floor telecommunications room and the first floor telecommunications room.			
C-13	JLB	3 T-102	No pathways are shown connecting the Telecommunications room on the ground floor to the Telecommunications room on the first floor.			
C-14	JLB	3 T-102	The Cable tray should be extended to the communications rack/cabinet in the Telecommunication room			
C-15	JLB	3 T-102	Intra building back bone cabling will be required to connect the ground and first floor Telecommunications rooms. Details showing termination details, location and necessary equipment should also be provided.			
C-16	JLB	3 T-102	Communications outlet inside TR is shown in conflict with the communications rack.			
C-17	JLB	3 E-802	Conduit sizes for telecommunications outlets need to be coordinated. Several sizes are indicated through out the design documents. Ex Typical outlet details indicate 25mm conduits. Symbols page indicates 27mm conduits. Detail 6 on E-802 indicates 20mm conduits. Div 27 05 28 indicates min 21mm conduits. (Fill ratios need to be considered as well)			
C-18	JLB	3 E-802	Detail 2: Indicates a standard 112.5mm square double gang outlet box however a single gang outlet box is depicted.			
C-19	JLB	3 E-802	Detail 6: Indicates Cat 3 cabling is used for voice. Coordinate with other details and spec's as cat 3 cabling is not mentioned elsewhere.			
C-20	JLB	3 E-802	Detail 7: Indicates telecom raceway installation. Check TIA/EIA 569-A and or 569-B standards. Change in direction of tele/data cabling is not allowed within a pull box. The Detail indicates that a daisy chain method of distribution will be used. If this format is to be used the feed conduits may need to be upsized to accommodate the cabling from multiple outlets.			
C-21	JLB	3 E-802	Provide detail showing the Intra building backbone cabling logical/one line.			
C-22	JLB	Div 27 05 28	2.6 J: Device box size in conflict with size indicated on drawing E-802			
C-23	JLB	Div 27 05 28	3.2-I coordinate this section with notes on the drawings referring to embedding conduits in the slab. Make sure that they don't contradict each other.			
C-24	JLB	Div 27 05 28	Consolidate 3.2-F into 3.2-S as F leads you to believe that only two 90 degree bends are allowed.			
C-25	JLB	Div 27 05 36	2.6 A: Select testing standards			

Design Review
OFFICE BUILDINGS – BUILDING 3
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
C-26	JLB	Div 27 05 36	Remove 3.1 K and J: single rail cable trays are not being used nor are buss assemblies.			
C-27	JLB	Div 27 05 36	3.5 A Select or remove bracketed selection.			
C-28	JLB	Div 27 10 00	2.2 A Coordinate plywood back board size on drawings with this spec Drawings say 21mm and specs indicate 19mm			
C-29	JLB	Div 27 10 00	2.2 A Section 061000 Rough carpentry is not listed with the table of condense for this projects. Change spec reference or provide 061000			
C-30	JLB	Div 27 10 00	2.5 B 2: coordinate TGB size indicated on drawings with the one specified here.			
C-31	JLB	Div 27 13 00	1.2 A Remove pathways in its entirety from this spec. Include any pertinent information into Div 27 05 28 communications pathway spec..			
C-32	JLB	Div 27 13 00	2.2. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-33	JLB	Div 27 13 00	2.1 D coordinate outlet box size with drawings and other specs as there are different sizes shown on each.			
C-34	JLB	Div 27 13 00	Consolidate back boards into Div 27 11 00. Its not recommended to specify the same thing in multiple locations.			
C-35	JLB	Div 27 13 00	2.3 B Remove the brackets or delete the selection for overall jacket.			
C-36	JLB	Div 27 13 00	There is no specification for fiber optical cabling. Only installation requirements. Review design and determine if and where Fiber Optical cabling will be necessary.			
C-37	JLB	Div 27 15 00	1.2 A Remove Pathways from this spec. Pathways are outlined in Div 27 05 28.			
C-38	JLB	Div 27 15 00	2.3. A Remove back boards from this spec. Back boards are covered in 27 11 00.			
C-39	JLB	Div 27 15 00	2.5 B: Remove " formed into 25-pair, binder groups " This is not a characteristic of four pair cabling.			



Design Review
OFFICE BUILDINGS – BUILDING 3
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
FIRE ALARM COMMENTS						
FA-1	DOSS	Specifications	There are no fire alarm system specifications			
FA-2	DOSS	3 FA-001	Consider adding a generic fire alarm system wiring diagram			
FA-3	DOSS	3 FA-101	Consider adding a horn/strobe at the south end of Corridor 012			
FA-4	DOSS	3 FA-101	Consider adding a horn/strobe at the north end of Corridor 017			
FA-5	DOSS	3 FA-102	Consider adding a 2 - way communication at the top of Stair 2			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
STRUCTURAL COMMENTS						
S-1	RB	S-001	In the Structural Abbreviations, AISC should read "Construction" instead of "Contractors".			
S-2	RB	S-002	Cast-in place Concrete, note 27, the reinforcing clearance for "concrete cast against and permanently exposed to earth" should be 75mm per ACI(M).			
S-3	RB	S-002	Steel Deck note 3; The roof deck appears to be 3"x22 gage, Type N deck. Please verify that the minimum section properties (S & I) are correct. They appear too low.			
S-4	RB	S-101	Are the column footings centered on the Grid Lines? Some columns are offset from the grid lines. Please add notes or dimensions to clarify the locations of the footings under irregular columns.			
S-5	RB	S-101 & S-103	Along grids 2 and 8, The shear walls are shown as 250 concrete walls, centered on the grid lines. On Arch dwg's A-101 and A-102, they are shown as 150 CMU partitions, aligned on the inboard face of the columns. Please coordinate.			
S-6	RB	S-101	A note near grid lines D2, calls for 150 concrete curbs around the "eastern style waterclosets". Coordinate with the architectural and plumbing drawings. They don't show any curbs around the floor openings.			
S-7	RB	S-101	At Stair 2, near grid 1. there is a door opening shown near grid C. It should be near grid D. Coordinate with Arch drawings.			
S-8	RB	S-101	The plumbing drawings show a 100mm sanitary line running adjacent to grid 2 and exiting the bldg at grid A. Verify that the floor clean out near col E2 and the 100mm pipe will fit on top of the shear wall footings. (300 below T/slab)			
S-9	RB	S-101	What is column line 8.7 for? It does not show up in the column schedule or the other drawings.			
S-10	RB	S-103	At the roof hatch near col D1, coordinate the opening dimensions with Arch dwg A-515.			
S-11	RB	S-104	There should be an additional line of embedment plates at 1585mm south of grid D, from grid 3 to 7. See sect 1/S-532.			
S-12	RB	S-105	Show Section cuts for S-531, S-532 & S-533, similar to Bldg 2, S-105.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
S-13	RB	S-502	See sections 10 and 12. The top of the tie beam is at (-300mm) at the interior footings and at (-630mm) at the exterior footings. Does the tie beam step down between footings? Please clarify.			
S-14	RB	S-503	At section 3, the designations "wall/column" and "stem wall/column" imply that a pipe could run thru the column, above the footing. This should not be permitted. Please clarify that the pipe runs thru the wall and not the column.			
S-15	RB	S-513	At Detail 5, please call out the typical wall horizontal reinforcement.			
S-16	RB	S-513	At Detail 7, the lintel section width should be 150, not 200. Coordinate with Arch. I did not find any 200mm partitions.			
S-17	RB	S-514	Does the concrete wall reinforcing extend into/thru the concrete columns? Please provide details to clarify.			
S-18	RB	S-531	At Detail 2, there should be a concrete beam below the Steel post and embed plate.			
S-19	RB	S-551	At Plan Detail 1, it would be helpful to show the column line designations.			

Design Review
PUMP HOUSE – BUILDING 17
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

<u>Excel Worksheet</u>		
<u>Name</u>	<u>Description</u>	<u>Printed Page Number</u>
Index Sheet	Excel Workbook Index	1
Architectural	Architectural Drawing Comments	2-4
Mechanical	Mechanical Drawing Comments	5-6
Plumbing	Plumbing Comments	7
Electrical	Electrical Drawing Comments	8-9
Communications	Communications Comments	10
Fire Alarm	Fire Alarm Comments	11
Structural	Structural Drawing Comments	12-13

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ARCHITECTURAL DRAWINGS						
A-1	KCB	Spec 07 21 00	Is there any foam plastic insulation that is not part of the EIFS system? If not remove from this spec section as the EIFS insulation is in the EIFS spec.			
A-2	KCB	Spec 07 41 13	Under performance requirements the metal soffit panels are not listed. Coordinate with the structural engineer to see what loads the soffits will need to resist and make sure they are listed in this specification.			
A-3	KCB	Spec 07 41 13	Make sure roof load requirements match the structural notes, it appears you are calling for different snow load requirements (check others too).			
A-4	KCB	Spec 07 41 13 and 07 42 13	There are 2 different levels of galvanization required under miscellaneous metal framing for these 2 spec sections. Shouldn't they be the same? Which one is more readily available in-country?			
A-5	KCB	Specs 07 42 13 and 08 90 00	Which of these is used where? - it is not clear.			
A-6	KCB	Spec 08 80 00	Fire rated glazing is included in this specification however based on the drawings it does not appear there is a need for any in Phase 1. Is it needed for Phase 2?			
A-7	KCB	Spec 08 80 00	Where are glass types called out on the drawings? What is the intent of including delegated design since specific design criteria has not been provided?			
A-8	KCB	Spec 09 93 00	Where is this used? I do not see it called out on the drawings as either a wall finish, floor finish or exterior finish. If it is SC on the Finish Schedule make that clear.			
A-9	KCB	Spec 10 21 13	You have 2 specs with 2 different materials but neither one is called out on the drawings.			
A-10	KCB	Spec 10 44 13 and 10 44 16	Are all fire extinguishers in cabinets or are some bracket mounted? If they are in cabinets add detail to the drawing set showing how that works in the typical wall.			
A-11	KCB	Spec 10 44 13	Is there any need for 2 hour cabinets?			
A-12	KCB	Spec 10 82 13	Is this specification for building mounted sunshades? I do not see any sunshades on the architectural drawings.			
A-13	KCB	Drawings	Throughout the set there is inconsistent text size, sheet to sheet and detail to detail.			
A-14	KCB	LS-001	Add a paragraph about accessibility.			
A-15	KCB	A-001	There are abbreviations used on the drawings that are not coordinated with the architectural abbreviations list including but not limited to the following: ELEV, M, MM.			
A-16	KCB	A-101	Make sure dimensions are coordinated with structural. There seem to be some discrepancies. Are your walls drawn at 205 (actual size of 8" cmu in MM)? Structural has the walls dimensioned as 205. See S-101.			
A-17	KCB	A-101	Show the plumbing vent penetrations on the Attic Plan and the Roof Plan.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-18	KCB	A-101	Consider showing all items that will be mounted on or hung from the ceiling on your reflected ceiling plan. These can be excellent coordination drawings to find conflicts between all trades.			
A-19	KCB	A-101	Who is showing how the floor slab slopes to the floor drains? Plumbing detail 3/P-501 refers back to arch drawings for "exact requirements".			
A-20	KCB	A-101	Consider showing air terminals on this roof plan for coordination purposes.			
A-21	KCB	A-201	Elevation1 - The light shown above the double doors is not shown on the electrical plans.			
A-22	KCB	A-201	Elevation 3 and 4 - Have the connections between the galvanized channels around the corrugated metal panels been designed? They are not drawn on the structural drawings.			
A-23	KCB	A-351	Tag datums on wall sections, typ.			
A-24	KCB	A-351	Wall Section 1 - The roof detail bubble is cut off.			
A-25	KCB	A-351	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-26	KCB	A-351	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-27	KCB	A-351	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-28	KCB	A-351	Wall Section 1 - The EIFS note here is different than the typical EIFS note. Was this intentional?			
A-29	KCB	A-351	Wall Sections 1, 2 and 3 - There is missing gravel hatch near the footing. Is there supposed to be a perimeter drain there?			
A-30	KCB	A-352	Typically at the note at the perforated metal soffit, the word panel is spelled wrong.			
A-31	KCB	A-352	At the note pointing to the attic insulation the terminology doesn't match the specifications (membrane vs. coating).			
A-32	KCB	A-352	Is there anyway to eliminate the thermal gap at the wall/attic intersection?			
A-33	KCB	A-352	Wall Section 2 - The EIFS note here is different than the typical EIFS note. Was this intentional?			
A-34	KCB	A-352	Wall Section 1 - There is missing gravel hatch near the footing. Is there supposed to be a perimeter drain there?			
A-35	KCB	A-501	If plan details 3 and 6 are not used label them as such.			
A-36	KCB	A-511	Hatch cut through steel for clarity.			
A-37	KCB	A-511	Make the intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-38	KCB	A-511	Show the insulation continuing to the cut line.			
A-39	KCB	A-512	Hatch cut through steel for clarity.			
A-40	KCB	A-512	Detail 2 - make intersection between galv C200 channel and perforated metal soffits weather tight to keep insulation from getting wet.			
A-41	KCB	A-512	Make all cut line a consistent size.			
A-42	KCB	A-514	Hatch cut through steel for clarity.			

Design Review
PUMP HOUSE – BUILDING 17
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
A-43	KCB	A-515	The note at the insulation on this sheet does not match the insulation note on the wall sections.			
A-44	KCB	A-602	Refer to S-101 - Plan Notes: says refer to arch drawings for slab finish requirements. I do not see where that arch drawings addresses this especially if this is referring to float vs. trowel vs. broom finish, coordinate. Spec section 07 18 00 (attic waterproofing) does list specific requirements.			
A-45	KCB	A-602	Finish schedule - what does SC stand for (sealed concrete, stained concrete)? It is not on the materials index.			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
MECHANICAL COMMENTS						
M-1	RHM	Mechanical cut sheets	Highlight mechanical cut sheets with specific selections similar to plumbing cut sheets.			
M-2	RHM	Mechanical cut sheets	Provide cut sheets for Greenheck model CSP fan			
M-3	RHM	Mechanical calculations	HVAC load calculations are missing for building 17. How were unit heaters and fans sized? Provide back-up.			
M-4	RHM	17 M-101	Move mechanical text off of building background to improve clarity.			
M-5	RHM	17 M-101	Control layers to remove building components not applicable to mechanical systems shown.			
M-6	RHM	spec 230529	Edit to remove hangars and supports not needed in this project (especially application schedules in 3.6). Paragraph 3.1.M: Pipe slopes are not indicated on drawings - are they in spec?			
M-7	RHM	spec 230548	Confirm that an Ip of 1.5 required, as this raises costs for restraint system substantially. Equipment bases specified in 2.2 do not appear on drawings; if they are required, show on drawings and include in Part 3 execution. 2.3.D - cables should be specified as pre-stretched cables as part of UL listed or OSHPOD approved assemblies (not allowing installer to assemble from loose miscellaneous components)? 3.7.A - Are air mounted systems being used? If not, delete.			
M-8	RHM	spec 230593	Paragraph 1.5.A: NEBB certification (per 1.3.B) is equal to these. AABC and/or TABB certified firms may not be available locally. Consider the Afghan equal to these agencies by including a phrase similar to "or the local equivalent". Include details on setting up variable speed drive pumping systems that include the design frequency and wide open or barely non-overloading triple duty valve settings. 3.12 and 3.15.F are in conflict, as are a few other specific equipment testing requirements - clarify.			
M-9	RHM	specs 230713, 230716, and 230719	These three insulation specifications include insulation types and procedures in excess of that required for this project. The specifications should be edited by removing superfluous content. The piping insulation specification needs to include an appropriate below grade insulation system.			

Design Review
PUMP HOUSE – BUILDING 17
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
M-10	RHM	spec 233113	2.1.A and 2.2.A - static pressure class is not indicated. 2.3.B.2 - exposed duct mill phosphating should reference ASTM A2092. 2.3.D - tie rods are not required or advised for the small duct shown. 2.4.D solvent based sealant - consider deleting due to toxicity of volatile components. 2.5, 2.6, 3.5 and 3.6 - delete to avoid conflicts and instead reference appropriate spec sections. 3.9.C - is this cleanliness testing equipment available on site? 3.10 - is full cleaning of all new duct required? This may be excessive. Note NADCA 1992 (3.10.E.5) is very outdated - refer to latest edition.			
M-11	RHM	spec 233300	2.2.A.2 - refer to ASTM A2092. 2.2.D - not required. 2.4.A&B - Which are required and where? Consider adding locations required to 3.1.D. 2.4.B & D aluminum dampers are used for aluminum duct typically and may be deleted. 2.5 - control dampers are specified in section 230900;2.10 - delete from one section or the other (prefer to leave under controls and reference only in this section). 2.6.B - confirm dynamic type are required. 2.9.C and 3.1.H.4 - pressure relief access doors are very costly and are probably not needed in duct this small due to lack of dynamic pressure surge upon damper closure. Verify if this is a true requirement prior to specifying this. Confirm other specialized accessories are required.			
M-12	RHM	spec 233713	General - delete unused types.			
M-13	RHM	spec 238239	2.1.I - there appear to be no hot water unit heaters on project. Delete clause if not needed. Add electric wall mounted unit heaters.			

**Design Review
PUMP HOUSE – BUILDING 17
drawings dated NOVEMBER 3, 2010
WO-LT-0004**

Response Legend
A - Agree
D - Disagree
O - out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
PLUMBING COMMENTS						
1	DCG	Plumbing Calculations	Confirm hot water demand can be met by water heater selection. Catalog cut sheet for heater is incomplete and can not determine recovery for selected unit.			
2	DCG	17 P-101	Add vent on 100 FD-1 in Disinfection Room 011. Add trap primer on 100 FD-1 in Pump Room 010. Near 100 FD-1 at bottom right of Pump Room 010, call out what is happening on water line or detail what is happening on 20mm water line. Show water and sanitary isometrics.			
3	DCG	17 P-501	Detail 1: Remove piping type on cleanout as it doesn't necessarily match the specification.			
4	DCG	17 P-501	Detail 3: Remove piping type on cleanout as it doesn't necessarily match the specification.			
5	DCG	17 P-501	Add water heater detail and water service detail.			
6	DCG	Specifications	Section 220523: Purge out valves not wanted for this project (for example: Do you want gate or globe valves?)			
7	DCG	Specifications	Section 220529: Purge out hanger materials not wanted for this project (for example fiberglass hangers or struts?)			
8	DCG	Specifications	Section 220719: Purge out insulation materials not wanted for this project (for example mastics or jacketing?)			
9	DCG	Specifications	Section 221116: Purge out piping materials not wanted for this project (for example PVC or PP piping?)			
10	DCG	Specifications	Section 221119: 2.3, A: Where installed? 2.4, A: Where installed? 2.5: Select which balance valve for this project. 2.6, A: Where installed?			
11	DCG	Specifications	Section 221316: Purge out piping materials not wanted for this project (for example ABS piping?)			
12	DCG	Specifications	Section 22132: 2.2: Select which type of oil interceptor you want for this project			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ELECTRICAL COMMENTS						
E-1	DJS	17 E-002	General note 5. Remove sentence "All electrical local...shall be white UNO." and make it its own note.			
E-2	DJS	17 E-002	General Note 5 states MC cable can be used for all branch circuit wiring except the homeruns. General note 9 states all raceways are surface mounted from the panelboard to the utilization devices, UNO. Is it the intent to install MC cable exposed as these notes infer?			
E-3	DJS	17 E-101	Turn off architectural dimensions, wall types, etc on the floor plans			
E-4	DJS	17 E-101	Verify that the EUH's require combination starters. EUH's usually have their own contactors.			
E-5	DJS	17 E-101	Add junction boxes and circuiting for the motorized dampers in the south east corner of the building			
E-6	DJS	17 E-101	Add 17-EWH-2 and METP-1 motor connections and wiring to the power floor plan			
E-7	DJS	17 E-101	Note on right side of sheet for underground conduit states to provide pull strings which is in conflict with Partial One Line Diagram - Building 17 on drawing 17 E-501			
E-8	DJS	17 E-501	Partial One Line Diagram - Building 17 says Building 21, change to Building 17			
E-9	DJS	17 E-501	Light Fixture Schedule, add type F4E			
E-10	DJS	17 E-501	Mechanical Equipment Connection Schedule, consider indicating EUH (KW) instead of fan HP			
E-11	DJS	17 E-501	Mechanical Equipment Schedule, add 17-EWH-2			
E-12	DJS	17 E-501	Mechanical Equipment Schedule, Verify Duplex Pump wire size			
E-13	DJS	17 E-501	G-PP1 Schedule, indicate EUH KW loads instead of fan loads			
E-14	DJS	17 E-501	G-PP1 Schedule, add METP-1			
E-15	DJS	17 E-501	No light fixture cut sheets are included in the DA			
E-16	DJS	17 EG-101	The DA states that a complete lightning protection system is provided for the entire MoPH complex. There is no lightning protection system on this structure			
E-17	DJS	17 EG-101	Turn off architectural dimensions, wall types, etc on the floor plan			
E-18	DJS	Spec 260519	Add metric wire sizes along with AWG wire sizes			
E-19	DJS	Spec 260519	Part 3 infers that MC cables can be installed exposed			
E-20	DJS	Spec 260526	Add metric wire sizes along with AWG wire sizes			
E-21	DJS	Spec 260529	Part 3.1 C. is not edited			
E-22	DJS	Spec 260533	Part 3.2 A. Delete "Comply with NECA 102 for aluminum conduits" since aluminum is not specified			
E-23	DJS	Spec 260533	Part 3.2 F. Define "for which few bends are allowed"			
E-24	DJS	Spec 260536	Confirm specification section is not required			
E-25	DJS	Spec 260553	Part 3.2 J. 1. Delete sentence restricting use of underground warning tape			
E-26	DJS	Spec 260553	Part 3.2 O. 1. a. is not edited			

Design Review
PUMP HOUSE – BUILDING 17
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
E-27	DJS	Spec 260573	Part 1.5 b. 1. requires licensing in the state where Project is located, modify requirement			
E-28	DJS	Spec 262416	Part 1.2 A. 3. delete load centers from list			
E-29	DJS	Spec 262713	Confirm specification section is not required			
E-30	DJS	Spec 262726	Add metric wire sizes along with AWG wire sizes			
E-31	DJS	Spec 262726	Part 3.4 B. 1. Modify voltages for 220 volts			
E-32	DJS	Spec 265100	Part 2.8 C. delete self luminous signs			
E-33	DJS	Spec 265600	Confirm specification section is not required			
E-34	DJS	DA	The DA does not include any voltage drop calculations, short circuit calculations or lighting calculations			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
COMMUNICATIONS COMMENTS						
C-1	JLB	Spec/DA/Drawings	No communications content to review			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
FIRE ALARM COMMENTS						
FA-1	DJS	Spec/DA/Drawings	There is no fire alarm system to review			

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
STRUCTURAL COMMENTS						
S-1	RB	S-001	In the Structural Abbreviations, AISC should read "Construction" instead of "Contractors".			
S-2	RB	S-002	Cast-in place Concrete, note 27, the reinforcing clearance for "concrete cast against and permanently exposed to earth" should be 75mm per ACI(M).			
S-3	RB	S-002	Steel Deck note 3; The roof deck appears to be 3"x22 gage, Type N deck. Please verify that the minimum section properties (S & I) are correct. They appear too low.			
S-4	RB	17 S-101	Note 2 - revise to "compacted granular base".			
S-5	RB	17 S-101	Note 5 - How does the step footing transition from a thickened slab at the interior wall to a strip footing with CMU stem wall at the exterior wall? Clarify the detail.			
S-6	RB	17 S-102	At the roof hatch, coordinate the size and location with dwg A-515. The dimensions are different.			
S-7	RB	17 S-103	Additional embedment plates are required at 1180 south of grid A. See Sect 2/S-531.			
S-8	RB	17 S-501	At Detail 3, If open stirrups and crossties are used in lieu of closed ties - provide note "Spandrels - Place 90 deg end of crosstie hook on slab-confined side. Interior - Alternate 90 deg ends of consecutive crossties."			
S-9	RB	17 S-502	Detail 8/S502 - indicate a 90 deg hook for wall vertical steel to develop into the SOG.			
S-10	RB	17 S-503	At section 1, the designations "wall/column" and "stem wall/column" imply that a pipe could run thru the column, above the footing. This should not be permitted. Please clarify that the pipe runs thru the wall and not the column.			
S-11	RB	17 S-503	At Section 3, coordinate with C-601 and Sect 12/S-502. Verify that the 100mm floor drain piping will run under the thickened slab for the interior walls.			
S-12	RB	17 S-503	At Section 4, coordinate the trench reinforcing with section 1/C-603.			
S-13	RB	17 S-503	At section 4, coordinate the trench grating with section 1/C-603, the Arch dwgs and the specifications. The grating is not well defined. Call out the thickness and spacing of the bearing bars and cross bars.			

Design Review
PUMP HOUSE – BUILDING 17
drawings dated NOVEMBER 3, 2010
WO-LT-0004

Response Legend
 A - Agree
 D - Disagree
 O - out of scope
 AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
S-14	RB	17 S-512	At Detail 1, Note 1 should read "beam sections". No beam schedule is provided.			
S-15	RB	17 S-512	What happens to the ends of the concrete beams at the CMU piers? Do the beams extend thru the piers and the piers continue up, above the roof slab? If not, how do the beam top and bottom bars extend into CMU piers? Provide details to clarify,			
S-16	RB	17 S-521	At Section 2, coordinate the beam depth with Arch section 2/A-351. The depths are different.			